TERRA

THE NATURAL HISTORY MAGAZINE OF THE WEST
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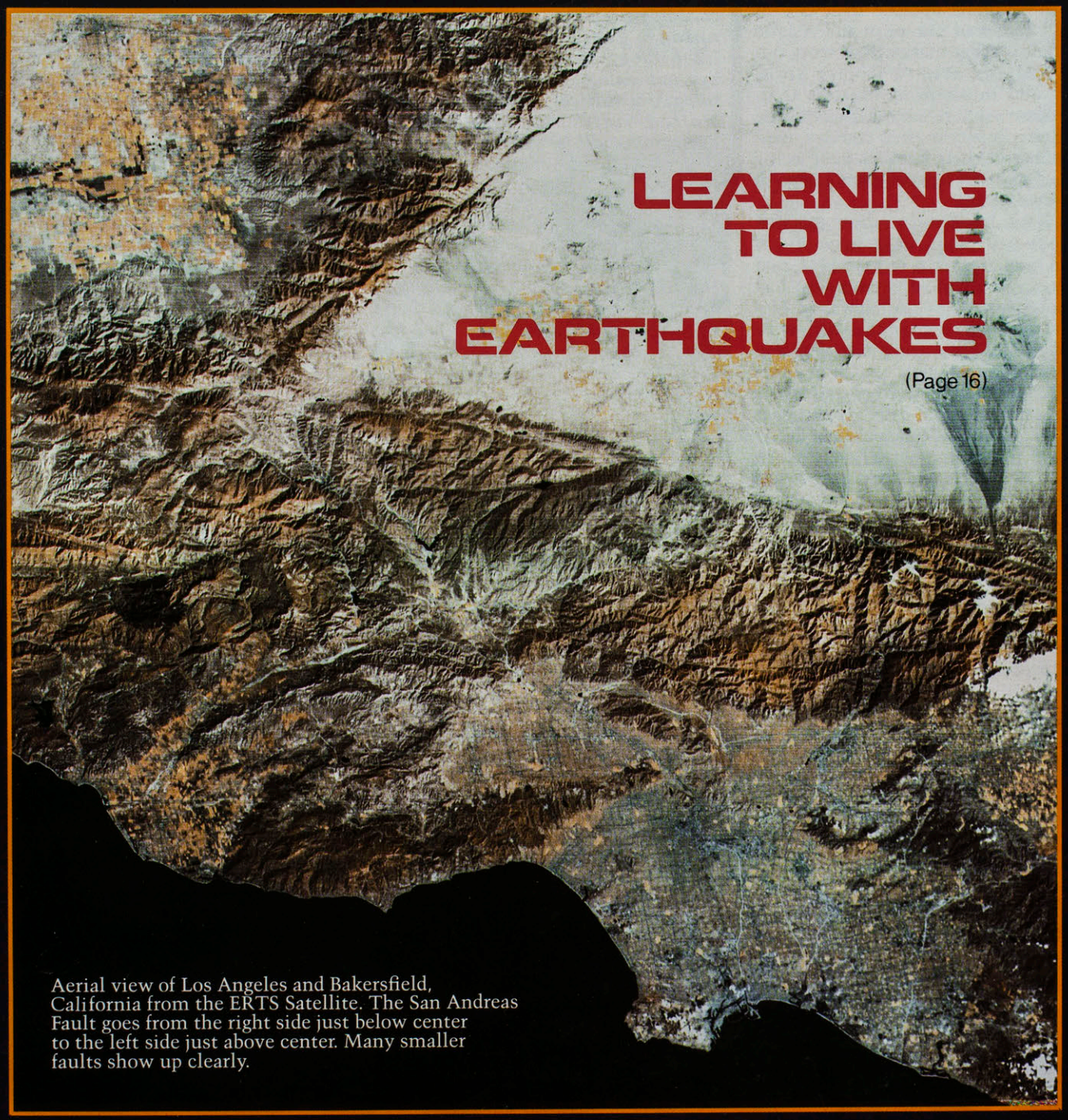

LEARNING TO LIVE WITH EARTHQUAKES

(Page 16)

Aerial view of Los Angeles and Bakersfield, California from the ERTS Satellite. The San Andreas Fault goes from the right side just below center to the left side just above center. Many smaller faults show up clearly.

CURATORS & COLLECTIONS

GO FOR BROKE!

AN EXHIBIT ON THE JAPANESE AMERICAN SOLDIER IN WORLD WAR II

An old American tradition has it that, during wartime, civilians will be transformed into brave and battle-ready soldiers. Japanese-American soldiers built upon this tradition during World War II, as students, clerks, farmers, fishermen, and professionals became the "Go for Broke!" heroes of European and Asiatic battlefields. What makes their story unparalleled and able to inspire films, books, and museum exhibits is that, while these soldiers were demonstrating their fierce loyalty to their country overseas, many of their families were being confined unjustly in interment camps in the United States.

The 100th Infantry Battalion, the first Japanese-American unit to serve in Europe, was organized in June 1942, and consisted mainly of volunteers who had previously served in the Hawaiian National Guard. The men of the 100th were trained in Wisconsin and Mississippi and then sent to North Africa in the autumn of 1943. The 100th performed admirably in Italy, especially in the fierce fighting at Anzio and Cassino. These soldiers' determination to win against all odds led to their having such high casualties that they earned the name "The Purple Heart Battalion."

In February 1943, a general call went out for Americans of Japanese ancestry to volunteer for service. More than 3,000 men from Hawaii and 1,500 men from the mainland responded, and the 442nd regimental Combat Team was formed. The 442nd first saw action against the German forces near Rome in the summer of 1944. By the end of the year, the 100th was attached to the 442nd, which was then composed of three infantry battalions, the 522nd Field Artillery Battalion, the 232nd Engineering Company, the 206th Army Band, an anti-tank company, a cannon company, a service company, and a medical detachment.

In October 1944, the 442nd was the key unit in the liberation of the French town of Bruyéres. Without rest, the 442nd was given the assignment of freeing the "Lost Battalion," a unit of the 141st Regiment of Texas that had become surrounded by German Troops. The Lost Battalion was rescued, but the toll for the 442nd was high: more than 800 men killed or wounded.

In their two years of combat service

(Continued on Page 30)

DISCOVERY DAY

Do you have a pet "ology"? On Sunday, October 24, experts from the Natural History Museum representing the "ologies" from A (archaeology) to Z (zoology) will be on hand for a special Discovery Day. Museum-goers, antique-lovers and junk-collectors of all ages are invited to sort through their treasures, explore their attics, clean their closets—and bring a maximum of three items to the Museum between 10:00 a.m. and 4:00 p.m. for identification by experts. In addition to the "ologies" (anthropology, archaeology, biology, entomology, ethnology, geology, herpetology, ichthyology, malacology, mammalogy, mineralogy, ornithology, paleontology), historical objects from the United States, including Early California, will be identified by representatives of the Museum's History Division.

TERRA

THE MEMBERS MAGAZINE OF
THE NATURAL HISTORY MUSEUM ALLIANCE
OF LOS ANGELES COUNTY

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A NEW DIRECTOR: NEW DIRECTIONS

DR. CRAIG C. BLACK TALKS TO TERRA'S EDITOR

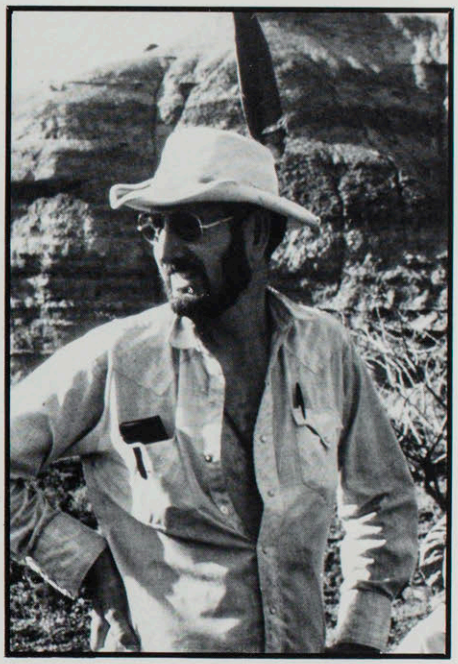
by DOROTHY H. SELIGMAN

Dr. Craig C. Black, the Natural History Museum's new director, whose appointment takes effect officially on September 1, has flown into Los Angeles several times during the late spring and summer to meet with the Museum's various Boards, the curatorial staff, and other personnel. The trips have been whirlwind, because Dr. Black still has had duties as director of the Carnegie Museum of Natural History in Pittsburgh, where he has been in charge for the past seven years. And he is currently president of the American Association of Museums, as well as a past member of the Museum Advisory Panel to the National Endowment for the Arts.

However, such is the style of the new director that he seems relaxed and unhurried at all times. He is a tall man, big-boned, who moves with an easy stride. Deceptively mild blue eyes are slightly magnified behind hornrimmed glasses, and a full pepper-and-salt beard fills a face dominated by a strong hawkish nose. He speaks decisively in a deep, pleasant baritone, devoid of regional accent.

TERRA's editor received an appointment for an interview, sandwiched between a picture-taking session for Dr. Black's Museum identification badge and a Foundation meeting. The photo session, which she witnessed, found Dr. Black devoid of vanity. Getting on to the next event was more important.

It is no secret that Dr. Black has been significantly successful as director of the Carnegie NHM, where he has been instrumental in securing important outside funding from community sources. It was important for us to find out why he was leaving, so as we settled on the couch in the office of the director, on which he will soon place the personal stamp of his own personality, we had



Taken in Area 104
Lake Turkana, Kenya, 1975.

the temerity to ask him just that:

SELIGMAN: Why are you leaving Pittsburgh? Carnegie Museum of Natural History is a great museum.

BLACK: Well, it was a very difficult decision. But basically I believe I'm leaving because there are a tremendous number of opportunities with this Museum. I've had seven years at Pittsburgh and Carnegie Museum — actually I've had seventeen but seven as director. We've accomplished a great deal. I think we've initiated a lot of new programs, public programs. We did a lot of science. But I enjoy challenges. I think there is a great challenge here.

SELIGMAN: Your career shows that you've always accepted challenges. I know that you have an MA in philosophy at Amherst and a PhD in philosophy at Harvard. Yet you are a paleontologist. How did that happen?

BLACK: When you talk about graduate degrees in those institutions, they may say a doctor of philosophy. Actually it was in biology. So all of my graduate work—I spent a year in medical school, then went back to do graduate work in biology—my interest has been, since I think I was a junior in college, in paleontology through one individual at Amherst.

SELIGMAN: Who was that?

BLACK: A man by the name of Dr. Albert E. Wood. He's retired now and lives in Cape May Court House, New Jersey. He was my — if you can have a major professor as an undergraduate—he was my major professor. Did a senior honors project with him. Went off to medical school realizing that I was going back to graduate work in biology. But the first year medical school's good training for biology anyhow.

SELIGMAN: Were you only interested in vertebrate paleontology back then?

BLACK: Yes.

SELIGMAN: And how did that start?

BLACK: It basically started through a professor when I was an undergraduate, who taught comparative anatomy and a number of those things which one takes as a pre-med, but he managed to bring in his own interests, which were fossils and evolutionary history, and he got me interested at that point. And then suggested that since I lived in the West and used to go fishing up in Wyoming and Colorado every summer, that I go on up to Wyoming to a locality that he knew of and do some collecting.

SELIGMAN: Did you grow up in the West?

BLACK: I grew up all over the place. It's difficult. People say, what's your home? My home is scattered over a large part of the world. I was born in

China. When we came back we lived on the eastern shore of Maryland for a year, in Salisbury. Then we moved to El Paso, well, *back* to El Paso—it was my mother's home and where my father practiced medicine before he went to China. And we were there for about four years. And then I started the rather peripatetic life of a military brat, starting in 1940, and lived in Corpus Christi, Texas; Kingsville, Texas; New York City; Philadelphia; Bethesda; Morristown, New Jersey; and Norman, Oklahoma. In the space of five years.

SELIGMAN: Then...

BLACK: But I call El Paso, Texas my home.

SELIGMAN: How did you happen to go to Amherst?

BLACK: I went to prep school in New England. I was five years at Kent School in Connecticut. I got to know Amherst somewhat through that association but also my father and my uncle were both Amherst graduates. I guess I just followed in that sort of family tradition.

SELIGMAN: When you embarked on your career as a curator in paleontology, was there a particular field of interest in vertebrate paleo for you?

BLACK: I started out with my major interest in unraveling the evolutionary history of rodents. Various ilks. I did my doctoral thesis on the evolution of North American squirrels—on all the members of the squirrel family; that includes marmots, woodchucks, prairie dogs, chipmunks, flying squirrels—and from there spent nine months in Europe studying European squirrels, their evolutionary history. Then I guess about the first ten years of my research career was mainly devoted to publishing the study of fossil rodents. Then I got interested in some paleoecology studies, faunas dating thirty-five to forty-five million years old, did field work in Wyoming and France on those, then somehow I managed to get myself involved in some African work. I started out in Tunisia, and my fossil studies became a little broader, not just the rodents. Then decided it would be fun to go down to Turkana, join with the Leakeys for a while. So we had two or three expeditions...

SELIGMAN: Was this all from Carnegie?

BLACK: Most of it was initiated at Carnegie, but the actual root of the Kenya involvement started in 1971 when I was working in Tunisia with the University of Colorado group. And my wife and I decided to go down to Nairobi to the game parks to take the tour—do all those good things — talked to Richard Leakey at that time about perhaps joining his group because no one was working in the area — paleo and small animals ... We finally got a project together and went over there for the first time in 1974 and the last time I had anyone involved in that was in 1978.

Chris and I camp at Badwater, Wyoming, 1980.

Craig C. Black and his daughter Lorna Black.

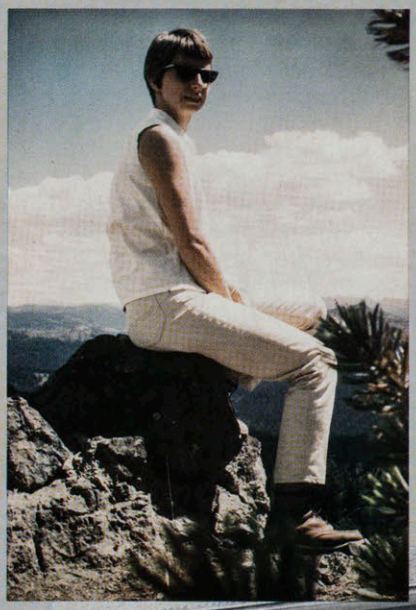
SELIGMAN: I know how hard it is to move from being a pure scientist to becoming an administrator. What happened when suddenly you found yourself invited to go to Texas Tech as the director?

BLACK: It's sort of a gradual evolution, because I spent ten years in the cloistered environs of Carnegie as a curator and then I thought, 'there's something more that I'd like to do, particularly in terms of having students and being involved in a graduate education program' and so I moved to the University of Kansas and was there as an associate professor for a while and began to take on a little more administrative responsibility in terms of various sorts of university committees and things of that sort.

And one of my closest friends at the University of Kansas went down to Texas Tech as dean of the graduate school and got there to find a museum that needed a director. Thought of me, and I applied, and eventually I ended up in administration, and I must say, it took me probably two years to really feel my way into that. I have always enjoyed working with people, enjoyed solving problems with people, but I would never say that I was an administrator by birth or inclination. It just sort of grew.

SELIGMAN: I'm told that you are extremely interested in education within a museum, that you did wonderful things with adult education at Carnegie. Do you plan on hitting that very hard here?

BLACK: I feel very strongly that museums of any sort, but particularly science museums in this day and age, have a major responsibility in public education. And part of that is due to the



Connie Black,
top of Pinyon Peak,
Teton National Wilderness, Wyoming,
1971.

At Hunan Provincial Museum
Changsha, China,
1981.

fact that I think our institutions of higher education, and even our secondary schools, are really abdicating their roles in science education. The state of science education is something we read a great deal about. There was a recent convening of distinguished people at the National Academy of Science Foundation in Washington to discuss this. I think that places like the Natural History Museum of Los Angeles County or Carnegie Museum of Natural History have a responsibility to step in and fill some of that void. There are lots of creative things that one can do to make science understandable. I am terribly worried that as we see a decline in science education we see a decline in the general understanding of science, and what science is about. And in the political process that we have in this country, if you don't understand it, then you start to be sort of really uneasy about it and then you begin to fear it and then you stop funding it. And then suddenly you wake up and there is no longer any sort of place for science. So I think institutions of this sort really belong in science education. I don't know the programs in education here yet, I'm certainly going to get to know them very quickly.

We had a great deal of success with it at Carnegie, not due really to my efforts, but due to a number of the staff that came around and got some major grants and had some very good ideas and developed fine, some very fine programs.

SELIGMAN: We have a very good children's education program here, but none for adults.

BLACK: Well that's something we'll take a look at. At Carnegie we were the second-most active curriculum institution in Pittsburgh at one time. We had ten thousand people, in two-and-a-half years, going through adult education classes in the sciences. In that, we were outdone only by the University of Pittsburgh.

SELIGMAN: Is this one of the things you intend to address very quickly?

BLACK: Yes. I want first to get to know the staff people involved; I believe in operating, I guess, wherever possible by consensus, and so I want to bring some people together and get their views and see what they think is possible. But yes, I would put an emphasis on adult programs. Museums are fun places for children and they're also great places to start certain education activities. We're missing a great audience and we're missing a great need if we don't serve adults.

SELIGMAN: Do you have other things that you want to talk about now? That you want to accomplish here?

BLACK: I must say I'm sort of bubbling with enthusiasm to try and get a number of things underway. I am really rather surprised at the low level of private support that comes to the institution. One of my first objectives is going to be to establish some sort of development office within the Foundation and to find some money to staff that. To start raising endowment for specific project areas. And, as I told members of the Board when we were discussing the opportunities out here, I think it's the Board's and the director's responsibility together. The board certainly has to be very actively involved. I would look at a goal of some thirty million dollars over the next ten years as being a realistic and not overblown need from the private sector. I think Los Angeles certainly has the potential. I'm very impressed with fund-raising that's been done for the art museum over the last ten years. I was pleased with a contemporary museum that raised fourteen million dollars in two-and-a-half years. I understand that the Huntington and the Music Center are very successful in their fund-raising efforts. There's no reason why this place shouldn't...

SELIGMAN: ...Well, you know, natural sciences have just not been socially the thing.

BLACK: True, the natural sciences have always lagged behind the arts in terms of fund-raising. There's no question about it. If you look at the national level — and you look at federal programming right now—it bothers me, it irritates me, and at times I must say it angers me that we can have $140 million in the National Endowment for the Arts and we can have $116 or $120 million in the National Endowment for the Humanities. Each of those foundations has major programs for support of a museum.

Science museums are basically not eligible for those programs. That in-

cludes not only natural history; that includes science and technology, zoos and botanical gardens. And the National Science Foundation, while the Federal Council talks about the National Science Foundation picking up its fair share, it has never done so and it never will. It's not in their mandate. Even at that level—when we can see it as a federal perception, it's not surprising that it's a local private perception, and it's always been very difficult raising money for natural history.

That's one of the real pluses of an institution of this sort, that has been able to keep the core County support that allows for the maintenance of a scientific staff of high caliber. And now I think it's up to the private sector, with cutbacks that have been necessary in County funding.

SELIGMAN: We haven't been able to get members into the Museum because we don't have a regular program of things that are going on here all the time. Including shows that are going on here all the time. And that has been a major problem. Do you foresee being able to do something about that?

BLACK: Are you talking here about special exhibitions?

SELIGMAN: Special exhibitions that bring people into the Museum, that enhance the monies that come into the gift shop which greatly support the museum, which we need so strongly.

BLACK: I brought with me on this trip three recommendations for possible special exhibitions. One of them has to do with a black photographer who's done some marvelous photographs of just everyday life in certain of the black communities in the South. It's a show that's received excellent reviews in the New York Times; it's traveled to a number of museums; it's going to Europe this month and will be there six months.

This Museum has a strong history component to it. People ignore that when they hear the Natural History Museum of Los Angeles County but it has a history component and I'd like to build on that. I think there are a variety of documentary-sorts of special exhibitions that would fit into their program. Another exhibit is a textile exhibition of materials from Turkey that's been put together by the Textile Museum in Washington. I asked people to consider that. And one that I think the institution is already sort of committed to, is Jim Gary's twentieth-century dinosaurs. I do want to see that exhibit here next year. It's a marvelous exhibit. We've got it at Carnegie right how. It's just fascinating.

SELIGMAN: What are your priorities for new halls at the Museum?

BLACK: I'm very interested in the support of the new dinosaur hall concept. And I think one of my first funding priorities is to get out and find a way to fund it.

SELIGMAN: Good, I think that's number one too. Now I want to ask you a little bit about your family. Where did you meet your wife?

BLACK: I met Connie in the field in Wyoming. She was secretary for the U.S. Geological Survey there and one of the graduate students in that department was in one of my field parties. She came up with his wife and a couple of other people to spend some time in the field.

SELIGMAN: Does she have a particular interest in sciences?

BLACK: Well, because of her eight years working for the geological survey she understands geology, has always been interested in paleontology, being in the field.

SELIGMAN: Has she gone into the field with you at all?

BLACK: She has indeed. She was in North Africa with me, for two or three of our field seasons there. She's been in Wyoming several times. I guess those are the two field areas.

SELIGMAN: And it seems that you have an older daughter?

BLACK: I have a daughter, Lorna, who's twenty-one, living in Tucson, Arizona, and a son, Christopher, Chris, who's nine.

SELIGMAN: Has he been on any trips?

BLACK: Yes, he's been out with me two or three times to Wyoming, to our field camp there.

SELIGMAN: How does he feel about moving West?

BLACK: He's of mixed minds, I think. He's started in a new school just this year and was making a new set of friends and getting settled in that time. He's back and forth. At times he's excited. He's a great sports buff—he will probably be able to quote any of the statistics of any sports team that you might think of and leaving the Pittsburgh Steelers isn't something that he's terribly happy about. On the other hand, I think he's looking forward to the Los Angeles Dodgers. He's just gotten into hockey and I'm trying to convince him that I'm sure there are opportunities for ice-hockey out here. It's been a little difficult because everything he hears is 'Oh the climate is so wonderful ... there's no snow ... we don't have winters.' So he wonders how he's going to play ice hockey.

SELIGMAN: I understand your family is going to wait and come in another year.

BLACK: They will not be moving out here until the end of the next school year. We have to look around, size up some communities; we don't really know Los Angeles environs at all. Buying a house is a major undertaking ... the school systems ... so we'll spend nine months at that.

SELIGMAN: Will you commute?

BLACK: I'm going back probably about four days a month. Taking a little longer at Christmas. They'll come out here as often as possible.

SELIGMAN: What do you think were the greatest set of accomplishments during the seven years you were director at Carnegie NHM?

BLACK: I probably would have to separate that into areas. I think one of the best things that the museum has done in that period of time is to develop an educational program staff from scratch. When I got there,there was no public education staff. The institute had just gone through a reorganization and the museums were—just as I came in—being given responsibility for developing their own staffs. And I think we built one of the model education staffs in that period of time. And that's been very rewarding.

We opened the first new exhibit galleries to be done in that institution in the last thirty to thirty-five years. As a matter of fact, I'm going off and leaving one that's in progress. I definitely will go back when it's completed; I think it's going to be a marvelous hall. It's called Arctic Adaptations, The Ever-Changing Eskimo.

In the science areas, we've managed to put in a great deal of money in renovating laboratories providing storage space and storage equipment. I had the marvelous chance to basically reorganize three of the scientific divisions from scratch so we can look with a great deal of satisfaction on the way those people built their departments.

SELIGMAN: Do you have any particular hobbies?

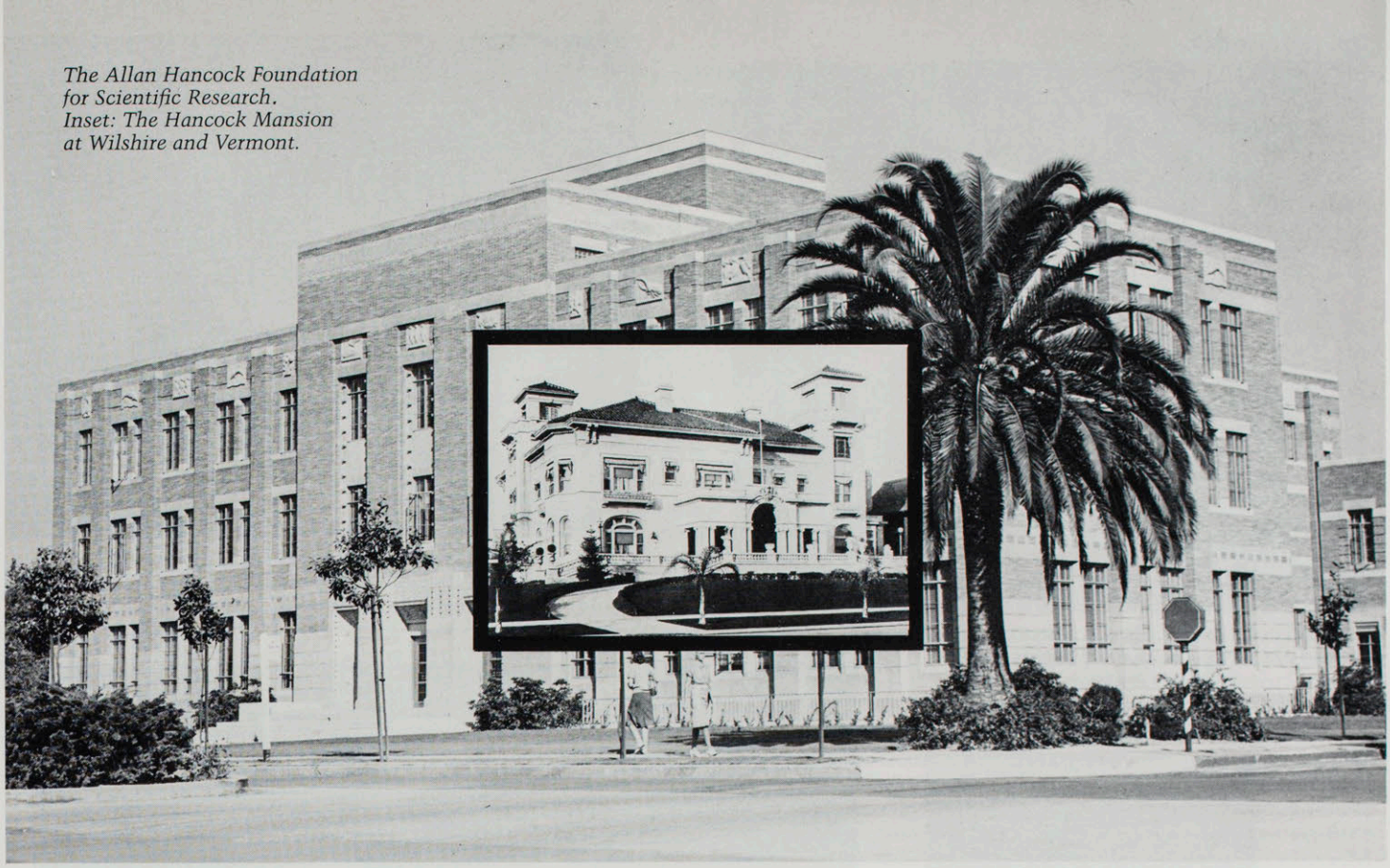
BLACK: I enjoy fishing when it doesn't conflict with my other duties. I collect stamps occasionally.

SELIGMAN: Any particular kind of stamps?

BLACK: Basically I try to stick to those countries in which I've had some sort of field involvement. Kenya. I was an *avid* stamp collector when I was a youngster. I built up a fairly good collection; ended up selling it all off to support the first year of medical school. I'd say fly-fishing was my favorite hobby, though.

SELIGMAN: In September your great challenge begins in Los Angeles. Is there any final thing you'd like to say about it?

BLACK: I'd like to add that one of the attractions here is there are a very fine group of people on the staff to start working with. That was another one of the inducements. I've known some of them for a number of years. Others I'm just meeting. But I think there is a tremendous human resource in this institution. It's basically getting them tools and the necessary wherewithall so they can do their job. That's what administration is basically about.



The Allan Hancock Foundation for Scientific Research. Inset: The Hancock Mansion at Wilshire and Vermont.

Elegant Survivor

THE HANCOCK MEMORIAL SUITE, WINDOW TO PAST TASTEFUL OPULENCE

by KILBEE BRITTAIN

Photos by Dick Meier/John DeLeon

Deep inside the University of Southern California campus, four opulent seventy-five-year-old rooms rest in well-kept elegance, relics of the affluent, widely-travelled taste that blossomed in Los Angeles around the turn of the century. The rooms comprise the Hancock Memorial Suite — reception hall, dining room, library, and music salon — which Captain George Allan Hancock had moved in 1939 from his Wilshire and Vermont mansion, about to be razed, to his Hancock Foundation Building as a memorial to his mother, Ida Haraszthy Hancock.

The Hancock Memorial Suite, open to the public by appointment, not only contains treasures such as furniture from the Mexico City palace of Emperor Maximilian, exquisite huge Meissen vases, Carrara marble, rich stained glass, embossed and gilded leathers, carved oak, and Austrian crystal chandeliers, but also affords a window upon a life-style now long gone.

Allan Hancock's contributions to Los Angeles are well known. He gave twenty-three acres on Wilshire Boulevard to the County in 1916. Hancock Park includes the Los Angeles County Museum of Art, the George C. Page Museum displaying Pleistocene fossils from nearby tar pits, and a fine residential area. A series of oceanographic research vessels, the Hancock Foundation at U.S.C. dedicated to marine biology research, the Hancock Ensemble of chamber and orchestral music, all were made possible through the generosity of this exceptional man. Influential in oil exploration, banking, railroading, aviation, ranching, and much more, he was also one of the founders of the Automobile Club of Southern California. He died May 31, 1965, a few days before his ninetieth birthday.

The story behind the rooms Allan Hancock so wisely preserved, however, really concerns his mother, Ida Haraszthy Hancock, who had built and furnished the mansion in 1907. She was an extraordinary woman, born of Hungarian nobility, who arrived in California in a covered wagon, was educated for years in Europe, and honeymooned with Major Henry Hancock in a home on Rancho La Brea. After Major Hancock's death, she managed the ranch with great business acumen and was able to educate her children well, scare off squatters with a shotgun, sell tar (brea), finance oil exploration, and, with her energetic son Allan, amass sufficient fortune to travel extensively and build her mansion.

Ida Hancock came by her adventurous character naturally. Her father, Colonel (and Count) Agoston Haraszthy, of ancient Hungarian nobility, first came to the United States in 1840 after masterminding a daring escapade to free a blind political prisoner in one of the many outbreaks against tyranny that culminated in the Hungarian Revolution of 1848. In 1842 he was able to bring his parents, wife Eleanora Dedynski, and three sons to live with him.

Ida was born in Imperial, Illinois, in

Murals of Pompeii and Herculaneum by Othmar Brioschi.

Marble double stairway, which in the mansion led to the family quarters.

Napoleon, by Sir Moses Ezekiel.

"Aurora" blazes with sunlight on the landing.

"Aurora Dispelling the Dawn" by Leon Zettler.

1843; other children followed. Colonel Haraszthy, who had been successful in Wisconsin with mercantile and agricultural pursuits, financed arms and ammunition for the 1848 Hungarian Revolution. Because of asthma he was advised to move to California. In April, 1849, he left Madison, Wisconsin, with family and friends, travelling in a covered wagon by a southern route to San Diego, arriving the following December. In later years, Ida would recall the storms, the lack of water, and the Comanches who tried to buy her in exchange for four squaws and twelve ponies.

Haraszthy soon became sheriff of San Diego, and in 1852 was elected a member of the state legislature. At that time he moved his family to San Francisco, where he was active in agriculture and became the presidentially-appointed assayer of the United States Branch Mint, and later, melter and refiner.

At the legislature Haraszthy met Henry Hancock, also an elected representative. Hancock had sailed with his brothers John and Samuel around the Horn in 1849 from Bath, New Hampshire, where his paternal grandfather emigrated from Somersetshire, England, in Colonial days. Commissioned major in the Mexican war, armed with a Harvard law degree, Hancock practiced law briefly in San Francisco, amassed over $20,000 in the Gold Rush, and, after a move to Los Angeles, was asked by Governor Pio Pico to survey the area, his fee being thirty-five acres and $300 for every 500 acres he surveyed. His connection with Haraszthy in the legislature led to his friendship with the family. When he first met Ida, she was nine years old.

The very next year Ida and her mother travelled around the Horn to New York and Europe, where she was schooled for several years. Haraszthy soon moved the rest of the family to Sonoma, where he became important in California viticulture, importing European vines, advocating raising vines without irrigation, using redwood instead of oak casks, and beginning employment of Chinese in the wine business. He is known as the father of the Zinfandel grape.

Henry Hancock, who surveyed Rancho La Brea in 1858, and his brother John had been gradually buying up parcels of the Rancho while the claims of the Rocha family to a provisional 1828 Spanish land grant were being disputed. By 1860 the Hancocks had purchased 4,438 acres, including what is now the Wilshire Country Club and Marlborough School, at about $2.50 per acre.

Shortly after Ida returned from Europe in 1863, she and Henry Hancock, twenty-one years older than his bride, were married in San Francisco. They rode horseback down the dusty Central Valley for two weeks to their honeymoon house at Rancho La Brea, a frame home on a barren area adjacent to the present Page Museum. As a United States Deputy Surveyor, Henry Hancock continued his surveying and his legal research of Los Angeles land titles.

Colonel Haraszthy had suffered some business reverses in mortgages to finance the expansion of his Buena Vista vineyards in Sonoma County. He decided to venture to Nicaragua, and visited the Hancocks at Rancho La Brea on his way. It was the last time Ida was to see her father or mother.

In Nicaragua Haraszthy bought a sugar plantation and built a rum distillery, hoping to engage in trade between San Francisco and Nicaragua. But his plans never materialized. His wife died of yellow fever, and he himself became ill. Upon recovery, he went alone into the jungle, according to one story, to check on a sawmill under construction, and disappeared. His son Gaza found Haraszthy's mule tied to a tree by an alligator-infested river, and one set of footprints leading to a bridge-like branch that had cracked over the waters.

After her parents' deaths, Ida visited her brothers and sister in San Francisco occasionally. On July 26, 1875, she gave birth to twins George Allan and Harry in her brother Arpad's house, after more than ten childless years. When she was able to travel, her husband Henry escorted her home to a Santa Monica cottage he had rented for the summer.

Life was not easy at Rancho La Brea. Amenities were few, the rancho was far from the more civilized part of Los Angeles, and the Hancocks were "land poor." Allan's twin died in infancy; Bertram was born in 1877. Only six years later, Henry Hancock died, leaving Ida the formidable task of bringing up two sons and running the ranch. She was a brave woman who deserves the credit for keeping Rancho La Brea intact while various claimants nibbled away and squatters were a threatening presence. Ida kept Rancho La Brea together by force of personality, stamina, and business sense.

Arpad Haraszthy asked his sister to come north after Henry Hancock died, and, while she did make an extended visit, she found she could not run the ranch from a distance. Brother-in-law John Hancock was apparently not the most satisfactory ranch manager. One of her letters from San Francisco reads:

"Dear John: Yours received; but why have you not answered any of my questions? It does seem too bad if I must spend $150 to go to Los Angeles simply because you will not read my letters carefully enough to give me the necessary information I asked. First, the exact amount for which I am assessed for taxes ... I also asked you to see the foreman at the rancho to find out to whom he delivered brea last month ... If he delivered for twenty-one days, he must have taken a lot of brea somewhere, and I want to know where..."

Allan was ten and Bertram eight when Ida decided to stay full time at the rancho. By then, blue gums and pepper trees surrounded the house. Fields of mustard grew six feet high. The boys walked three miles to a one-room schoolhouse on a lane connecting their homestead to the dirt road that is now Wilshire Boulevard. Finally Ida put the boys in different schools in the San Francisco area including parochial institutions and later Belmont.

While at home, Allan and Bertram helped with truck farming on 125 acres — string beans, tomatoes, chilis, peas, watermelons — and digging brea which was sold mainly for roofing in Los Angeles because it melted if used on the streets. Roofing brea sold for ten dollars a ton; paving brea, which they shipped from San Pedro to San Francisco, sold for $2.50 a ton. Ida rode a buckboard with a rifle in arms, routing squatters. The coins she received for brea sales were often so filthy, she scrubbed them before taking them to the bank.

Allan developed his love of music in the Rancho La Brea home. His mother had started him off with a harmonica, then a cornet, and years later bought him the first of his cellos. Rancho La Brea might not be Paris, but the cultivated lady in charge offered her children a cosmopolitan background. She also exemplified a practical, hopeful outlook. When she was unable to give Allan something he wanted, her favorite saying was, "Something is better than nothing, and some things better than all," perhaps a paraphrase of Proverbs 15:16.

It is hard to realize the toll of infant mortality and epidemic still rampant even now in much of the world, and a dread fact of life in the United States only a few decades ago. Bertram Hancock died of typhoid fever in San Francisco in 1893. One can only admire Ida Hancock's tenacity. She had lost both parents, her husband, and two of three children. Yet she and son Allan struggled on, farming, selling brea, and hoping for good fortune in the sporadic oil drilling Ida had been promoting since 1885.

In 1900 Ida granted a twenty-year lease to the Salt Lake Oil Company for 1,000 La Brea acres north of the Hancock home. The first well blew with such an explosion that it terrified everyone nearby. In a few years the wells were producing millions of barrels annually. The Hancocks were wealthy. Later it became more profitable to cap the oil and sell the land.

Coincidentally, in the hot, dry summer of 1901, Ida ordered a deep well dug near her home, and in the digging many huge bones were found and identified as fossils. The story of the rich Pleistocene deposits at La Brea and Allan Hancock's gift of the central twenty-three acres to the county of Los Angeles is well-chronicled elsewhere. It is worth noting, however, that bones had been dug up for

decades and discarded in the process of digging for brea. One scientist had published a paper about the fossil history of a sabretooth canine Henry Hancock had presented him in 1875, but the paper was ignored and soon forgotten.

Knowing that money makes money, Allan asked his mother for $10,000 in 1907 to drill for oil near their ranch house. He drilled seventy-one wells, and never hit a dry hole. That same year he and Ida established their first downtown office, ornate rooms in the Henne Building on Spring Street north of Fourth. His favorite portrait of his mother hung over his desk; a painting of her projected mansion rested in front of the desk's neatly-stuffed pigeonholes.

After so many years of struggle, Ida was able to enjoy her money. She travelled in Europe half of each year. With Los Angeles architect John C. Austin she had been making plans for a mansion at Vermont and Wilshire, then the western edge of anything citified. A connoisseur of fine arts, she collected extensively on her trips, enjoying visiting European family and friends, and using her fluent French, Spanish, Italian, German, and Hungarian with aplomb. The covered wagon, the buckboard and rifle, the brea and the tough rancho management in no way took precedence over the noble background and the years of European education.

While the mansion was being built, Ida moved from the La Brea home to live in several intermediate residences, one on Burlington and later on Carondelet Street. Both she and Allan travelled, and the old homestead fell into disrepair. It was finally demolished in 1953.

On one of her trips, Ida sent Allan a card from Combe Martin Church, Devon, noting the interment of one William Hancock, d. 1584, to whom Allan's genealogy was traced when the card turned up in family papers fifty years later. On another trip she purchased a famous violoncello made by Nicholas Gagliano in 1763 and gave it to her son.

Ida took her inspiration for the design of her mansion from the classical Palladian style of the Villa Medici in Florence, but it was not a copy. The home was a showpiece: forty-two rooms, an elevator (exceedingly rare then), and a chapel. (Ida had left her ancestral Roman Catholic Church for a while after she married Presbyterian Henry Hancock, but returned to her faith after the death of Allan's twin.)

Looking at the exterior from Wilshire, one saw a solid mansion of pressed brick and stone, with roof of burnt clay Italian tile. The urns and lions on the pedestals were of Carrara marble, shipped from Europe by Ida. The fountain in the patio was brought from a two-hundred-year-old patio in Florence. Tiles for the porches and patio were made in Wales expressly for the mansion.

The third-story Doric chapel's walls

The Georgian Dining Room

The Georgian dining room.

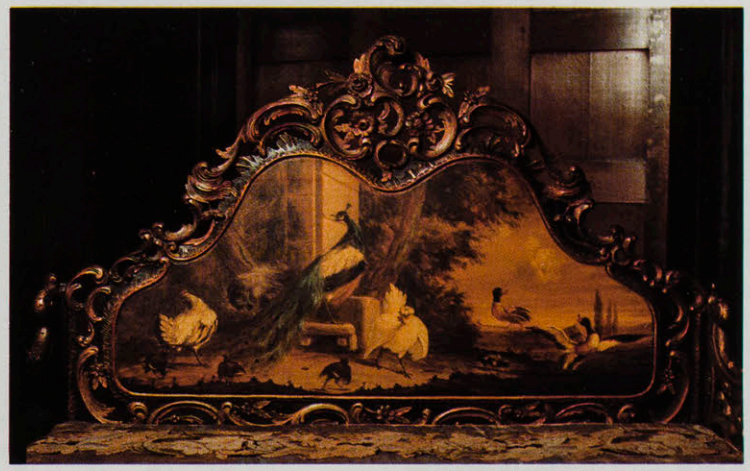
Detail of fireplace andiron.

Intricately carved doors into dining room.

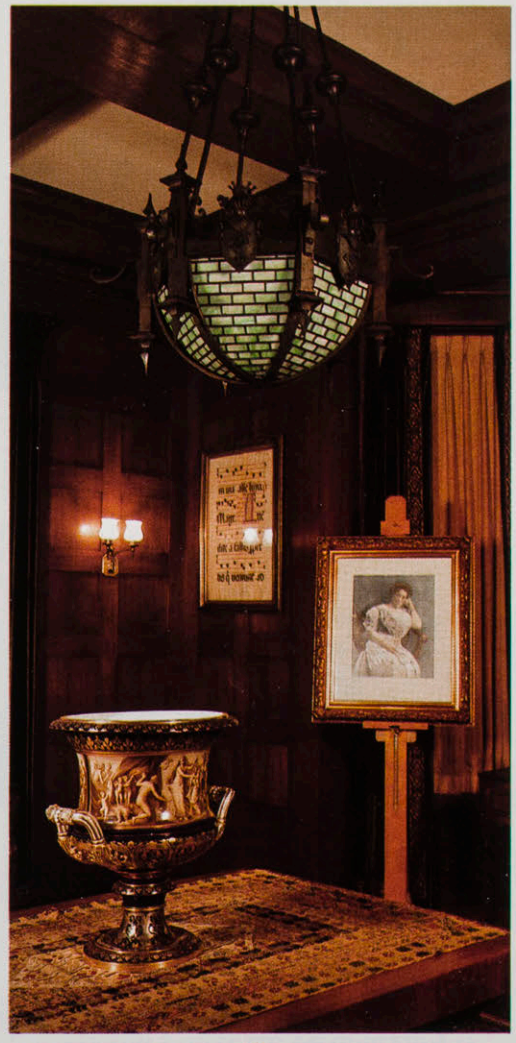
Rich panelling and embossed, gilded leather wall coverings.

The Georgian library, fireplace and mantel, the design taken from Warwick Castle.

Detail of "wolf-lion" guarding fireplace.



Chairback painted with landscape and birds.



The Tiffany lamp shines on a portrait of Ida Hancock.

were covered with old gold tapestry, "the ornamentation, columns, pilasters, window trim, and architraves are finished in old ivory and gold," a later rendition of an early description tells us. The chapel windows were by the same Leon Zettler of Munich who made the striking window still existing in the Hancock Memorial Suite.

In back, or to the north of the mansion, Ida built another house where Allan and his first wife Genevieve Mullen and their two children Rosemary and Bertram lived.

In 1909 Ida, then sixty-six, married Judge Erskine Mayo Ross, after whom Rossmore Boulevard is named. He was a Federal Judge of the Circuit Court in Southern California who had served as a Confederate officer in the Civil War, and had joined his uncle Cameron Thom in his Los Angeles law office in 1868. Ida was active in managing family businesses and in many philanthropic activities until her death, probably of cancer, but mercifully after a short illness, on March 15, 1913, at age sixty-nine. Family members recall hearing that a specialist brought from Germany heedlessly spoke in German to the other doctor present at Ida's bedside. Of course, she understood what they were saying, and so knew she was soon to die.

Roman Catholic Bishop Conaty closed his eulogy with, "A long life of active service ends in the sweet consciousness of life's duty done. Her life is one to be proud of." After her funeral at St. Vibiana's, Ida was buried at Calvary Cemetery.

Allan and his family moved into the elegant formal mansion. Wilshire and Vermont was a good neighborhood on the western edge of the city, beyond which were dirt streets and rural lands.

Betty Lacy Ruwe remembers living in the Lacy's English mansion on the southwest corner from the Hancocks, until she was twelve. Her brothers used to ride horses down the dirt road to Wilshire and Western to buy milk. Pepper trees grew along Wilshire. She and her brothers played in the vacant lot on the southeast corner opposite the Hancocks. But she was forbidden to play in the swampy land nearby because gypsies lived there. (The Ambassador Hotel was built over those swamps in 1921.) When the Lawler house down the street at Wilshire and New Hampshire was bombed by a criminal, the explosion blew young Betty Lacy out of bed. The guilty party later jumped out the window at City Hall to his death after being convicted. Oscar Lawler, who reminds us that the family home later burned down, remembers his older brother catching pollywogs by the Hancock mansion. In the late Twenties the Bullocks bought the Lacy home, planning to build Bullocks Wilshire on that corner. Later they decided to build their landmark store a few blocks east because of what they thought, and quite rightly, would be heavy traffic at Wilshire and Vermont. So the Bullocks moved the Lacy home to Plymouth Boulevard, north of Wilshire, and had a party in the house as it trundled down the boulevard.

Famous Los Angeles names like Duque and O'Melveney lived nearby. The Hellman mansion stood where the Immanuel Presbyterian Church now rises.

Mansions on the edge of swamps, mineral baths up Vermont at First Street, horses on Wilshire, affluence on the edge of bean fields: it was an exciting time, yet not without its drawbacks for the gentleman who is remembered by one former neighbor as the "centerpin of Los Angeles society," Allan Hancock. His accomplishments made him an outstanding figure in Los Angeles. For someone who had worked extremely hard all his life, whether hauling brea or as an oil developer, marine researcher, or cellist, the public pursuit of his privacy was difficult.

But private as well as public sadness afflicted Allan, as it had his mother Ida. On June 29, 1925, on a trip north to their Santa Maria ranch, Allan and his son Bertram stopped overnight at the Arlington Hotel in Santa Barbara. In the early morning hours a devastating earthquake struck. Allan was injured, but Bertram was killed, neck broken and skull crushed. A few days later, Allan wrote: "In the split fraction of a second later, I was falling with a great tangle of timbers, plaster, and steel beams. The smashing, crashing sounds of destruction were deafening... I fell two stories to the street level... Looking back at the wreckage, with great clouds of white dust still rising from it, I knew I had lost my son."

The rosary for Bertram was held in the mansion's music room where his grandmother's service had been held seventeen years before. The family sat in the balcony. After Bertram's funeral at nearby St. Basil's, the mansion was virtually closed for some years.

Allan lived in the home once again in the Thirties, with staff and several friends who were both musicians and scientific companions on numerous Velero voyages, those scientific expeditions Allan Hancock financed on a series of oceanographic research vessels. Dr. John Garth, a world expert on living crabs and now Professor Emeritus of the Department of Biological Sciences and Chief Curator Emeritus of the Allan Hancock Foundation, remembers how he came to meet Captain Hancock and live for a few years in the mansion. Allan enjoyed taking musicians on his research voyages so that they might have music after dinner, Allan being the cellist. But his pianist, William Strowbridge, suffered from seasickness. Garth was a U.S.C. senior majoring in music in 1931 when Allan Hancock called the music school to find a replacement for the pianist. The Dean remembered that Garth was not only a pianist but also a butterfly collector, that avocation presumably an indication of scientific disposition. So, upon the Dean's recommendation, Garth met Allan Hancock on December 1, 1931. Ten days later Garth found himself off to the Galapagos with Allan, the third member of the Hancock Trio, violinist Herman Marsh, and the crew on the new Velero III. The scientists on board suggested to Garth that since there were no butterflies at sea, he might concentrate on an area in much need of study — crabs.

While doing his graduate work (on crabs, not music) between 1933 and 1936, Garth recalls living at the mansion, rather anonymously because of increasing public infringement on Allan Hancock's name and privacy. The house was deliberately made to look unkempt, grass high and blinds drawn. The name on the mailbox was that of the butler, Albert Albertson. Residents of the home used the back door. Allan Hancock did not wish to be seen driving his sixteen-cylinder green Cadillac sports car with wire wheels. Dr. Garth, a slender, courtly scholar with a frequent muffled chuckle, remembers that whenever an extra car was needed to go down to the Velero at Terminal Island, he or the resident flutist, Sterling Smith, enjoyed driving the flashy Cadillac, taking time to cruise around in their own Molino Avenue neighborhood in Long Beach.

When parties were given at the mansion, guests drove up to the front of the house, but entered on the east side. And there were parties, among the most memorable, the performances in the music salon of the Hancock Quartet, Hancock Ensemble, and musicales by great artists including Pablo Casals.

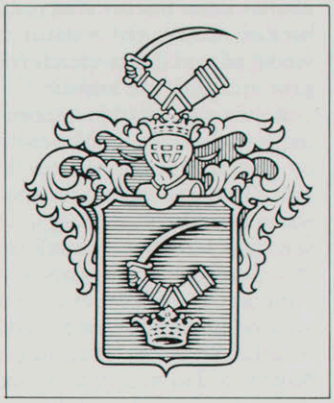
Around 1938, the mansion was used as a music conservatory under the direction of Alex Compinsky, cello, with members of the Compinsky Trio and faculty.

But as the Thirties grew old, property values along Wilshire soared. Commercial development was moving west, eating up old houses on its way. Allan Hancock himself broke zoning restrictions by encouraging Victor Hasson of Villa Florists to erect a flower stand on the corner in front of the Hancock mansion.

The other old stately homes on the corner and nearby were being moved or torn down. Dr. Garth recalls suggesting to Allan Hancock that "part of the mansion be moved to the U.S.C. campus as the nucleus of a science building soon to be constructed there." The house was cut in four pieces, and moved at twice the estimated cost. Dr. Garth continues, "The four rooms were incorporated into the original plans for the building and stood alone on the campus site as the rest of the building was erected around them." The Allan Hancock Foundation Building was dedicated on January 3, 1941, with the stately rooms designated by Allan Hancock as a memorial to his

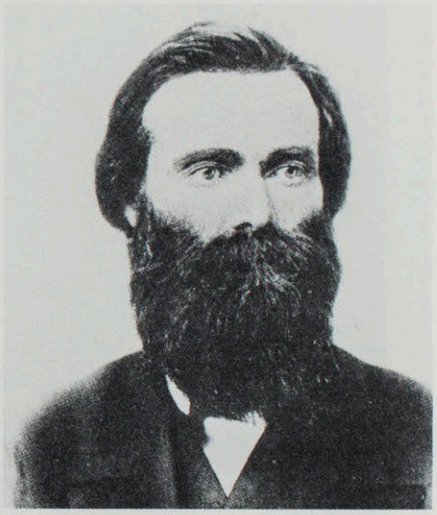
Count Agoston Haraszthy

Countess Eleanora Haraszthy



The Haraszthy coat of arms.

Allan Hancock portrait, 1964.



Major Henry Hancock

Ida Haraszthy Hancock

The Hancock home at Rancho La Brea, torn down in 1953.

mother.

One approaches the rooms down a hall where a giant spider crab peers out from a display case. But once beyond the usually locked doors, the visitor has left the world of marine research for one of elegant architecture and art.

A life-size marble statue of a brooding Napoleon, by Sir Moses Ezekiel, looms by the foyer doors into the reception hall. The hall opens on the other three rooms and a sweeping marble double stairway which in the mansion led up to the family living quarters, but now to Foundation offices. At the landing is a stained glass window by Leon Zettler of Munich showing "Aurora Dispelling the Night." On a sunny afternoon, the window fairly blazes with light.

Highlights in the hall are murals of Pompeii and Herculaneum painted in Paris by Othmar Brioschi, and wall and door decorations by Madame Adeline de Katona, copies from decorations in excavated Pompeiian villas. The round marble table and the fireplace mantel are Carrara marble. Mrs. Marian Hancock-Barry, Allan Hancock's widow whom he had married in 1946, was told that the mantel in the mansion was a temporary one because the Carrara mantel had not yet arrived from Italy when Ida was in a hurry to finish the house. When the rooms were moved to the Foundation, the Carrara marble mantel was found stored in the old home at La Brea, and was installed in its originally-intended position in the reception hall. The bullseye mirror above the doorway into the dining room was the largest ever made at that time. Dr. Garth remembers that in the mansion the Napoleon statue was on one side of the doorway and a set of gongs on the other.

The Georgian dining room walls are of embossed, gilded leather, framing Swiss cabinets filled with treasures Ida collected on her travels. The heavy carved oak table and chairs, which display the Haraszthy coat of arms, are English.

In the Georgian library are furnishings made mostly in Los Angeles from designs especially chosen by Ida. The fireplace and mantel are a replica of one in the banquet hall at Warwick Castle, but in the panel above the mantel shelf, Ida ordered carved her family coat-of-arms and motto, *Solus Sto*, "I stand alone."

The music room, which in the mansion was eighteen inches below the other rooms, had to be raised to comply with city ordinances about public rooms. On the walls are long pier mirrors which reflect the room's antique gold motif. The Louis XV salon furniture upholstered in Aubusson was originally brought to Mexico City for the palace of Emperor Maximilian.

A marble bust of Liszt is from life, the only one for which the great Hungarian musician ever sat. The imported chan-

The Music Room

Clockwise from upper left:
The music room;
the marble bust of Liszt;
iron-and-shell German strolling musicians on a mantel;
detail of Louis XV salon furniture, upholstered in Aubusson;
Patron saint of music St. Cecilia presides above the organ;
the balcony where family sat to enjoy music;
the stage where Hancock and his fellow musicians played.

tilly curtains were ordered by Mrs. Hancock-Barry to replace the original fillet lace which had worn out. Behind the organ pipes at the end of the room is Allan Hancock's music library, including scores most recently used by the Hancock Ensemble. Under the balcony is a vault which used to hold Allan's cellos. A portrait of St. Cecilia, patron saint of music, serenely gazes at the room.

Despite the formality of the music salon, it is a room of considerable warmth and nostalgia. Two rosaries for beloved family, sacred music on their behalf, and countless musical events of a more secular nature have been conducted in this room which stands as a memorial not only to Ida Haraszthy Hancock, but also to a life style long disappeared.

Now, the great old stately homes of Los Angeles are mostly gone. Some, of course, survive on West Adams, Chester and St. James Place, Fremont Place, and areas like Hancock Park and Windsor Square. But the intersection of Wilshire and Vermont, once the showpiece of civilized elegance on the edge of the bean fields, would now be unrecognizable to Ida Hancock. Where the Burkhardts lived on the northwest corner, people pump gas. Where Betty Lacy played in the vacant lot on the southeast corner, there is a wig shop, and the site of her home on the southwest corner is now dominated by a large office building. The northeast corner, where Ida Hancock erected her Palladian splendor, bought by her labors at La Brea and conceived from her cosmopolitan European background, now sports a squatty series of buildings including a bank, optometrists and photo shops, and then a parking lot.

But far into the future, the rooms of the Allan Hancock Memorial Suite remain safely conserved from the bulldozer of commercial "progress."

Kilbee Brittain, an Associate Editor of TERRA, is a freelance writer whose interests range from history to taxonomy.

SOURCES

Conversations with:
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Gretchen Sibley
Barbara Parkhurst
W. Antonio Fiore
Betty Lacy Ruwe
Oscar Lawler

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LEARNING TO LIVE WITH EARTHQUAKES

by PETER and KAREN WARD

Major damaging earthquakes will occur again in California. Scientists agree it is inevitable. Thousands of people will be killed and damage will be in the billions of dollars. But when? How can we evaluate this real but not necessarily imminent threat? What can we do to minimize the risk to ourselves, our families, our communities?

There are many threats to our lives — cancer, smoking, automobile accidents, to name a few. There are regional threats — tornadoes in the midwest, hurricanes in the southeast, and earthquakes in California. We have no choice but to accept risks as part of life. You can choose, however, to take precautions. You can buy insurance. You may reduce your exposure by giving up smoking, fastening seat-belts, or deciding where to live. You might choose to ignore the problems and live in happy oblivion. These are conscious choices that you can make both personally and in groups. You may be lucky and you may be unlucky. You certainly can improve your luck by developing a basic understanding of the problem and taking appropriate precautions.

The ground we live on seems so stable and yet earth scientists know that the continents have been deforming slowly for several billion years. The earth's surface is made up of approximately one dozen large plates nearly 40 miles thick that move relative to one another. Europe, for example, is moving eastward away from North America at approximately three quarters of an inch per year, and the Pacific Ocean is moving northwest relative to North America at a rate of more than two inches per year. In some areas under oceans the plates are growing and in other areas the edges of some plates are sinking into the interior of the earth. Most large earthquakes occur at the boundaries between the plates.

One such plate boundary slices through California along the San Andreas Fault. This fault is evident from the Gulf of California in northwestern Mexico, northward and east of Los Angeles, just west of San Francisco, and along the coast to Cape Mendocino in Northern California. The San Andreas Fault is really a zone sometimes miles wide consisting of nearly vertical cracks along which the land to the west is moving horizontally and northwest relative to the land on the east. On the average Los Angeles is moving about two inches closer to San Francisco every year or thirty-five miles closer every million years. The motion is typically not constant but occurs sporadically during earthquakes. During a larger than magnitude 8 earthquake, horizontal motion of tens of feet will typically occur within seconds along a 100 to 200 mile section of the fault. As the motion occurs, elastic energy is released, shaking the ground for hundreds of miles in all directions and causing damage. The intensity of the shaking typically dies off exponentially with distance from the fault.

Earthquake magnitude is a logarithmic measure of the amount of energy radiated from an earthquake. A magnitude 4 event is typically felt in a small area and a magnitude 6 event can cause serious damage near the fault. The energy radiated by a magnitude 7 event is 30 times that of a magnitude 6 event and 27,000 times that of a magnitude 4 event. The energy radiated by a magnitude 8 earthquake is nearly one million times that of a magnitude 4 event. In a given period of time, there are typically 10 times as many earthquakes of magnitude 7 as 8, 100 times as many events of magnitude 6 as 8, and 10,000 as many events of magnitude 4 as 8. Earthquakes of magnitude lower than 4 can not usually be felt. Events with magnitudes as low as 1 or 2 are routinely recorded and located by scientists to delineate where active faults

Highway overpasses damaged by the San Fernando, California, earthquake (magnitude 6.4) on February 9, 1971.

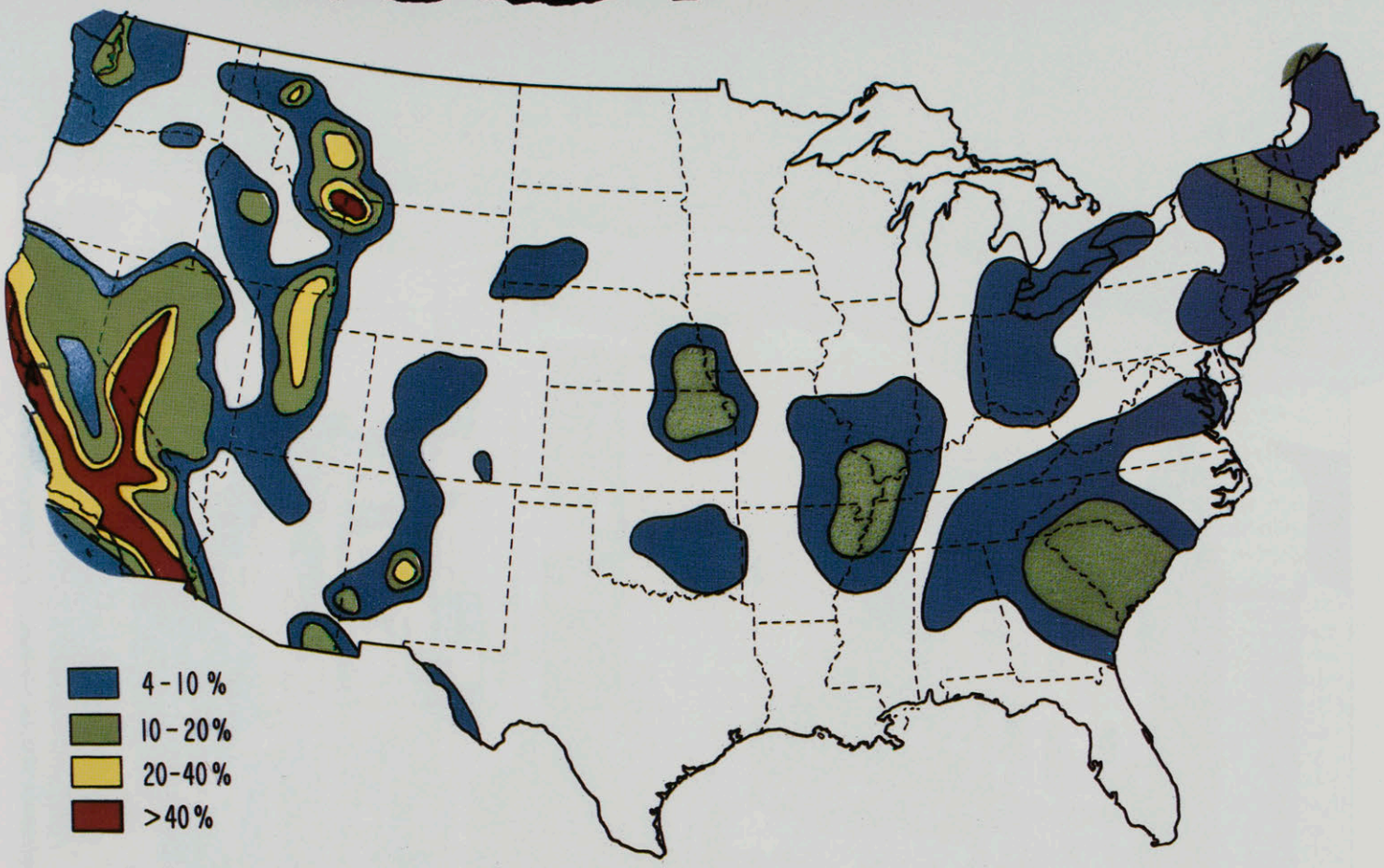
A view of San Francisco after the earthquake in 1906 (magnitude 8.3). While the front of the building on the right fell off, note how most of the buildings are standing. (Photo by G. K. Gilbert)

actually lie. Magnitude 6 earthquakes typically involve slippage along a few miles of a fault whereas magnitude 8 events involve slippage along a few hundred miles of a fault.

The last major earthquake of magnitude greater than 8 on the San Andreas Fault occurred in northern California in 1906. A similar event occurred in Southern California in 1857. Detailed geologic studies by Dr. Kerry Sieh, now at the California Institute of Technology, show that other large earthquakes along the San Andreas Fault in Southern California occurred approximately in the years 1745, 1470, 1245, 1190, 965, 860, 665, and 545 A.D. Thus major earthquakes recur along the fault in this area every 105 to 275 years. It is already 125 years since the last major event in Southern California! With this history and the longterm nature of the motion of plates, you can see why catastrophic earthquakes are inevitable in California.

The largest earthquakes in California will most likely be on the San Andreas Fault. There are many other faults in California and throughout the United States where smaller but very damaging earthquakes will occur. These smaller faults reflect the fact that the plate boundary is not a simple crack but often a complex zone of faults over a hundred miles wide. Some faults reflect primarily local stresses within the plates. In Southern California, for example, there are over 100 faults that scientists believe have slipped during earthquakes within the last 500,000 years and are likely to slip again in the future. Since many of these faults pass through very densely populated areas, the potential for damage is significant even from an earthquake of magnitude 6½. The 1971 San Fernando earthquake is a good example of such an event.

By studying the magnitude, location, and number of historic earthquakes and the rate at which seismic energy is dissipated with distance, we can designate where the regions are with the highest



The relative risk of damage from earthquake shaking throughout the United States. Numbers represent the maximum shaking expressed in percentage of the force of gravity likely to occur in fifty years.

risk of earthquake damage. While earthquakes have occurred in all states, they are more likely in certain areas. The enclosed national map shows the maximum likely ground motion expected in the next fifty years. Note the extremely high values in California, the high values in parts of the west, and the moderate values in parts of the Eastern United states. More detailed maps can be made of potential levels of shaking, for example, as shown for the Los Angeles region. This map is calculated based on the expected ground shaking from six possible earthquakes coupled with knowledge of the local geology and ground water conditions. Even these maps have been refined to include more detailed geologic information. It would be possible with sufficient new data to predict the levels of shaking in different parts of each town.

Damage during an earthquake is caused by two fundamental processes — ground shaking over a large region and surface faulting typically in a narrow zone. These processes may in turn trigger landslides, ground failure, seismic sea waves, and collapse of man-made structures. The shaking and faulting do not kill people. Faults do not swallow people. The real hazards to people are the secondary effects—landslides, building collapse, failure of dams, and more. The secondary effects can be predicted and avoided. Damage to property can be caused by shaking, for example by smashing all the dishes in a kitchen cabinet, but the greatest losses are likewise caused by secondary effects. With adequate time and money, we can build buildings and dams that will not fall down. We can deny development where landslides are likely. We can plan and build our communities to minimize the loss of life and property during earthquakes. There already exists adequate knowledge to know how to minimize earthquake hazards. The problem is that application of this knowledge involves difficult decisions and tradeoffs regarding how we spend limited funds, how much regulation of development is appropriate, and how imminent we perceive the threat to be.

For example, there are at least 10,000 brick buildings in Los Angeles County that were built prior to 1933, when strict new building code regulations were enacted as a result of a disastrous earthquake in Long Beach. Many of these buildings were built with lime mortar that does not hold well during earthquakes and most are not reinforced adequately. In a major earthquake many will fall down and the loss of life in these buildings will be far higher than in most other structures. What should we do about it? This question has been discussed widely by local and state authorities. On the one hand, a major earthquake may not strike for another hundred years. If so, all of these buildings will have been replaced by the normal processes of decay and development. On the other hand, we could decide to close all of these buildings immediately, but what happens to the owners and the economy? The cost of reimbursing the owners or strengthening the buildings would be prohibitive. One proposal was to put a sign on each building stating the potential hazard as was done with the Capitol Building in Sacramento a few years ago. This solution would also have profound economic effects while not

necessarily saving lives. Who is to say that the threat is imminent enough to warrant any of these actions?

Another example is in San Francisco. Chinatown is predominantly built of these dangerous materials. Even if the money were available, what would be the cultural effects of rebuilding Chinatown? Where would the current residents go if a massive urban renewal campaign were started?

These questions raise tough economic and social issues whose solutions are typically worked out very slowly by the competing economic, political, social, and legal processes in our society.

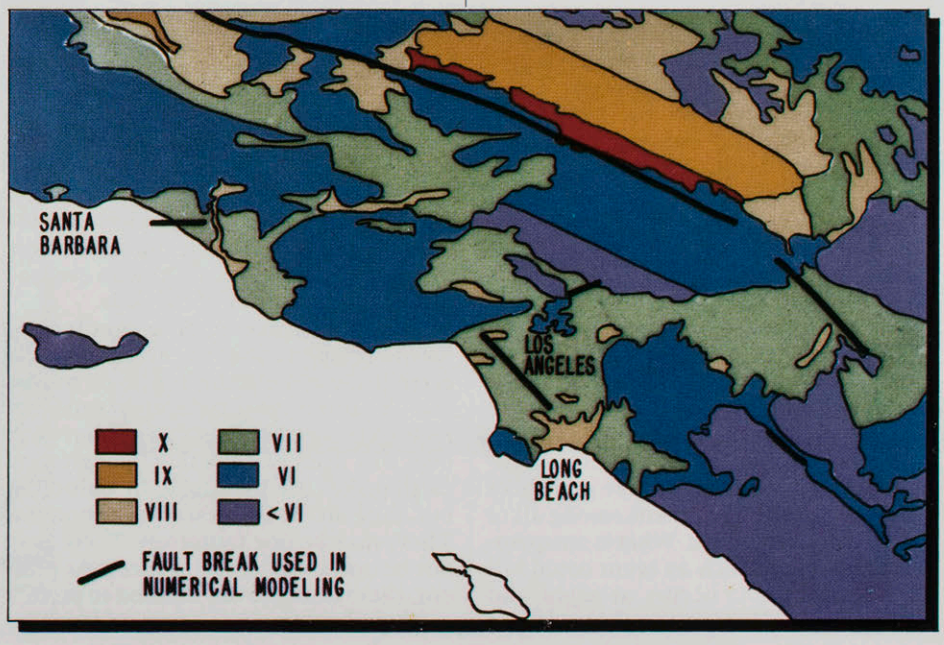
There has been substantial improvement implementing concepts of earthquake hazard reduction in our communities. In the area of building design, for example, the Uniform Building Code has been strengthened and local codes introduced to require minimal earthquake resistance in structures. Structural engineers around the world have intensively studied the response of a structure to earthquakes and are continually developing new ideas about earthquake resistant design. Small changes in construction practices are being adopted that strengthen potential points of failure. Substantial expertise is being brought together to design tall buildings, bridges, nuclear reactors and other critical facilities. The cost of making a structure completely resistant to the maximum likely earthquake can be prohibitive. Thus decisions have to be made on each building regarding how resistant is resistant enough. One approach is to strengthen a building just enough that it will remain standing during an earthquake so that people are not killed, but recognize that structurally it may be damaged beyond repair and will have to be replaced after the earthquake. If the life of the building is 50 years and the next major earthquake does not occur for several decades, then this decision would be both prudent and cost effective.

Most Californians who live in wood frame dwellings, especially single story houses, are safe. These buildings typically respond well and do not collapse during an earthquake. Damage is most likely to involve chimneys, large windows, and falling objects within the house. Rooms up over a garage, for example, may fall because of inadequate support. A primary concern is to avoid fire by fastening hot water heaters and furnaces to the walls, and knowing where to shut off gas and electricity should a leak or short-circuit be caused by an earthquake. Residents of brick or cement buildings, multiple story buildings, etc., may wish to evaluate their risk. Several paperback books written for the public at large are available describing structural considerations with regard to earthquakes. You might consult your city or county building department. Many structural engineers are listed in the Yellow Pages who could provide professional advice.

Another area where earthquake hazard reduction techniques are being implemented is in town and regional planning. Our ability to predict the likely ground shaking within a community, allows regional planners to put parks in high hazard zones and hospitals and fire stations in low hazard zones. The damage from faulting can be virtually eliminated if either development is not allowed in fault zones or special types of construction are required in these areas. The Alquist-Priolo Act of 1972, requires the California Division of Mines and Geology to create official maps of the earthquake fault zones throughout California by 1985. Maps of the most populated regions have already been completed. Furthermore the Act requires that a seller or seller's agent of property within these fault zones must notify the prospective buyer of this fact. Detailed geologic studies are required before certain types of development can be done in these zones and special structural strengthening may be required to improve earthquake resistance. In the past many developments with hundreds of houses were built astride major fault zones. Now in some cases, developments have been built in similar areas but the roads and parks sit on top of the highest risk zones and houses nearby have been built with extra reinforcing to withstand shaking from earthquakes. In several urban areas realtors can show you maps delineating the fault zones.

Thus we can significantly reduce our exposure to earthquake hazards by proper community planning, construction, and knowledge of the potential problems. There has been significant improvement during the last decade in our awareness of these problems and implementation of appropriate mitigation measures. We still have a long way to go. Many homes lie within fault zones or on landslide-prone hills. Many existing buildings will not survive an earthquake. Some hospitals, police stations, fire houses, and even disaster offices are located in high hazard zones. It will take many decades before the problems are corrected by normal development. Thus if a major earthquake strikes soon in a populated part of California, and it could, damage will be high. Earthquakes of magnitude 6½ or

Maximum levels of shaking from earthquakes in Southern California assuming that major earthquakes occur along each of the six fault segments shown. The San Andreas Fault is the longest fault shown. Numbers refer to the modified Mercali damage scale where X means most masonry and frame structures destroyed with their foundations and VI means felt by everyone, some windows and dishes broken, some shelves and pictures fall from walls.



greater could cause over one billion dollars damage in San Francisco, Hayward, Los Angeles, and Santa Monica.

If we could predict when these inevitable earthquakes will occur, we could clearly prevent most loss of life and reduce the loss to property through disaster preparedness planning. Substantial progress has been made during the last decade in earthquake prediction. In 1976 Chinese scientists predicted the occurrence of a major earthquake in northeast China, thereby saving nearly 100,000 lives. They were not able to predict an earthquake a year later that killed over a half million people. These high casualty losses reflect the type of mud and brick architecture used widely in China. Thus prediction may be possible, but there is not yet a proven technique. A wide variety of measurable precursors have been reported before some earthquakes: subtle changes in the number of earthquakes, the velocity of seismic waves, the magnetic field, ground elevation, water-level in wells, content of gas emitted from the ground, and many others. We can observe the energy accumulating that will be released in an earthquake.

The difficult question is when will the fault finally slip? It is like trying to say exactly when a stick will snap that you bend very slowly between your hands. The final failure seems to begin around inhomogeneities along the fault and it is difficult to know enough about all parts of all faults to predict which change is critical. One problem with prediction research especially in the United States, is that very few moderate earthquakes and no large earthquakes have occurred in areas where many monitoring instruments are installed. It may take one or two devastating earthquakes before prediction techniques can be proven. Some earthquakes may never be predictable. On the other hand, the state of knowledge of the problem now is high enough that at least a rudimentary prediction may be possible for the next major earthquake in California.

How would you respond if you heard on television that the National Earthquake Prediction Review Panel and the California Seismic Safety Commission agree that the chance of a major earthquake occurring in Los Angeles within one month is 65%? These first predictions of potentially damaging earthquakes may be very tentative and there may not be total agreement among all of the scientists involved. What is an appropriate response? Such an event could kill 3,000 people if it occurs at night and 12,000 people if it occurs in the middle of the afternoon. Most people will be safe at home. Thus if you are aware of what the risk is to your home, your office, your school, you will be in a good position to decide if you should make any changes in your daily activities. If you work in an old brick building, you may wish to take a vacation.

Nine hundred blocks of downtown Managua were destroyed by the earthquake in 1973. The widespread destruction was due primarily to the dominant type of mud and stick construction. Several modern buildings withstood the shaking and are still in use. (Photo by G. Plafker)

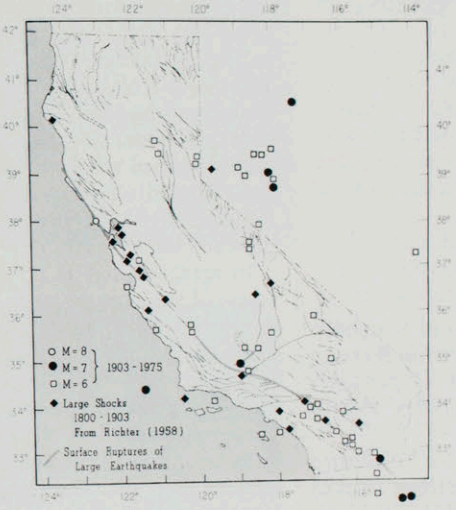
Deciding on the appropriate response to an earthquake prediction becomes even more difficult if you supervise many people. What is the liability of a factory owner who allows the employees to work on the day that an earthquake is predicted? What type of land speculation might take place if tentative predictions were made six months to a few years before a major event? Such predictions may be possible. Socio-economic studies suggest that the economic consequences of a long-term prediction could in the worst case be more severe than the earthquake itself. Yet what is the liability of a scientist who withheld precursory information to an earthquake in which your relatives were killed? There is no question among earthquake research scientists and institutions that all precursory information must be released immediately with a complete interpretation by a number of scientists and an evaluation of the reliability of the data.

Hearing an earthquake prediction, learning about the occurrence of an earthquake around the world, or maybe just reading this article may suddenly raise questions in your mind about your own risk from earthquakes. Devastating earthquakes are inevitable in California but they are not necessarily imminent. There may be one tomorrow. There may not be one for a decade or more. At present, there is no proven method to predict earthquakes but we can prepare for them now. We can definitely reduce our possible losses by evaluating potential hazards and deciding what actions are wise and economically reasonable. Basic precautions to take before and during an earthquake are described at the beginning of most telephone books in California. Ask your town and county planning and disaster groups about specific hazards in your area. Find out if active faults are located near you. When considering a move, ask your realtor if they have maps of such faults. If you are concerned about buildings, check your local library or bookstore for books on earthquake resistant design or consult a structural engineer. Be on the lookout for objects that may fall on you at home and elsewhere. Discuss what you will do if an earthquake strikes, your family is separated around town, all telephones are out of order, and some roads are blocked. A little planning now can give you peace of mind. It may save your life. Earthquakes can be devastating... yet we can minimize our potential loss and learn to live with them.

Peter and Karen Ward are both geophysicists at the National Center for Earthquake Research of the United States Geological Survey in Menlo Park, California. Peter was Chief of the Earthquake Prediction Program for several years. Both have lectured widely on earthquakes and related topics.

Looking along the San Andreas Fault in Daly City, California. The fault goes from the large gulch in the foreground through the lake in the background. (Photo by R. Wallace)

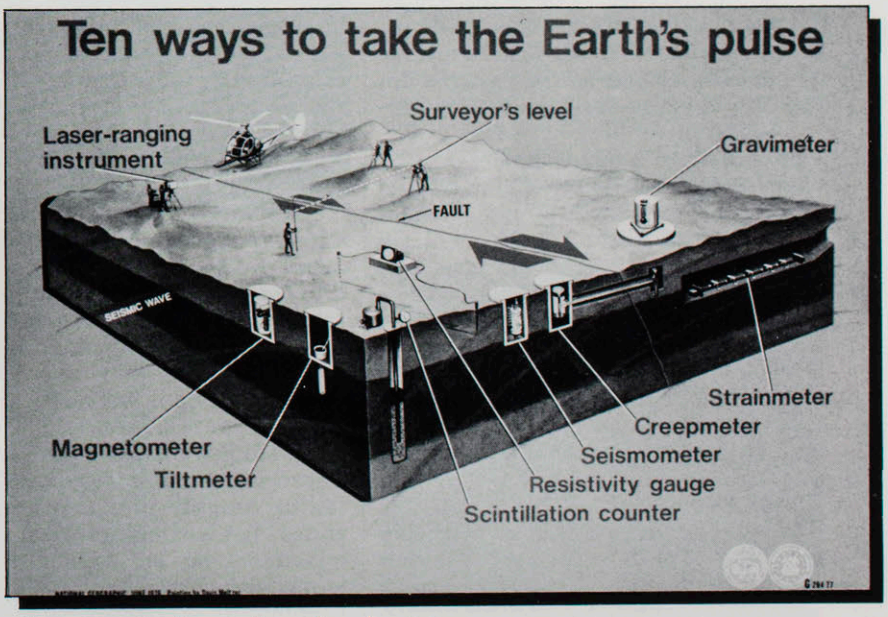
A small fault crosses a road near Managua, Nicaragua, from an earthquake (magnitude 5.6) on December 23, 1982. (Photo by P. Ward)



Active faults and large historic earthquakes in California.

This five story medical clinic collapsed during the Managua, Nicaragua earthquake in 1973. (Photo by P. Ward)

Landsliding and soil-failure during the Alaska earthquake of 1964 essentially destroying this neighborhood near Anchorage. The earthquake occurred on March 27, 1964, and was magnitude 8.4.



Ten ways scientists study earthquakes to try to predict when and where they will occur.

The Doings of Docents

by ELIZABETH J. WRIGHT

Is it possible that a group of Southern California women have undergone the experience of *rites of passage,* those ceremonies traditionally attributed to primitive societies?

In his book, *The Hero With a Thousand Faces,* Joseph Campbell describes *rites of passage:*

> It becomes apparent that the purpose and actual effect of these was to conduct people across those difficult thresholds of transformation that demand a change in the patterns not only of conscious but also of unconscious life.

According to a questionnaire sent by Gretchen Sibley in 1981 to volunteers who entered her Docent Training Program at the Natural History Museum of Los Angeles County between the years 1962 through 1975, the answers overwhelmingly confirm the fact that these women were conducted across difficult thresholds of modern feminine life and experienced extraordinary transformations.

But before pursuing this matter further, an answer is in order to the ever-recurring question, "What in the world is a docent?"

Webster defines a docent as "a teacher or lecturer." For those involved in docent work at the Natural History Museum of Los Angeles County, Webster's definition could be considerably expanded. Here docents tour over seventy-five thousand school children a year. A number work with curators in the various Museum departments; their activities range from "The Rat Pack" (docents skinning and preparing rodent specimens), to delicate painting of leaves for background of a permanent installation. Administration of the Docent Program is under the Division of Education which supervises Docent Roundtable. In addition to usual officers, the areas of docent board activities include Museum Openings, Films, Craft Fair, Alliance Open House, Adult Speakers' Bureau and Tours, *Docent Doings* publication, Curatorial, Membership, Hospitality, and School Tours.

These specific opportunities, to say nothing of life transformations, were probably the farthest thing from the minds of those of us who entered the Docent Training Program. Some applied out of curiosity, others because of a desire to serve. Those who wanted to "get out of the house" were joined by women hungry for intellectual and stimulating companionship. Educational backgrounds ranged from high school graduates to homemakers with unused Masters degrees as well as others whose teaching credentials had lain fallow for some years. Most were married, a majority with children who had reached the "off to school" age. Regarding motivation, all seemed to have one thing in common: a willingness to risk a totally new experience.

In retrospect it is possible to analyze some of the components of a program so successful as to have truly transformed the lives of its participants.

Beginning with the initial interview up through graduation nine months later, each step in the Docent Training Program was designed to provide professional instruction, intellectual stimulation, mutual support and a variety of techniques which resulted in dynamic personal growth.

Following graduation and upon participation in docent service, previously unrecognized aptitudes surfaced, neglected skills were sharpened, unsuspected talents in organization or administration were uncovered. Life transformations began to occur.

The proof? Answers to one-hundred and twenty-four returned questionnaires. By limiting the questionnaires to 1962 through 1975 it was felt that enough time had passed for those queried to evaluate the program in relation to their own lives.

One question in the query asked for a listing of: OTHER ACTIVITIES SINCE OR WHILE WORKING AS A DOCENT. The replies are impressive, with activities falling roughly into thirty-nine categories. Ten women now own their own businesses, six are engaged in literary work, five have become attorneys. Community service and support groups involve twenty-nine, four are into counseling, seventeen now teach. One became founder and director of the First Women's Bank, while Hermosa Beach honored yet another docent as Woman of the Year. Real estate, nursing, and professional employment are included in the thirty-nine categories. It must be stressed that the Docent Training Program was admittedly the motivating factor in the foregoing activities.

HOW LONG WERE YOU (OR HAVE YOU BEEN) ACTIVELY WORKING AS A DOCENT? The answers to this question add up to a staggering total. According to the returned questionnaires one hundred and seventeen were or have been docents for a combined period of eight hundred and fifty-six years.

Answers to the query, ANY FURTHER SCHOOLING?, were most revealing. Since completing their Docent Training eighty-one women have seriously pursued knowledge in a variety of fields. One obtained a Ph.D. Nine can boast of Masters' degrees while three are in their Masters' programs. Other areas of schooling include: flying, anthropology, political science, law, languages, nursing, photography, Chinese cooking, oriental art and travel expertise.

Kindled by the Docent Training Program and exposure to information about "the world out there," three hundred and forty-three post-docent-training trips were reported. Curiosity and a desire for more and new experiences led to five global tours. Twenty docents travelled in China, Singapore and Hong Kong. Forty-eight experienced Europe, twelve Africa. Sixteen eager travellers explored the Mediterranean, fourteen journeyed to Japan, twenty-three trekked to Mexico, ten went to Israel, thirteen sojourned in South America, five took in Russia, four saw India, nine invaded Egypt while forty-six investigated the United States. Too numerous to mention are sixteen other areas of the world adventured into by these women admittedly as a result of their transformation.

Perhaps the most important question asked was: VALUE OF THE DOCENT TRAINING AND PROGRAM TO YOU.

Thirty-two found the program to be motivation for further study and a stepping stone to employment as well as involvement in community activities.

For seventy-nine the widening of their interests and of learning and personal enrichment was stressed.

Friendships made with other docents proved of paramount importance to fifty-five.

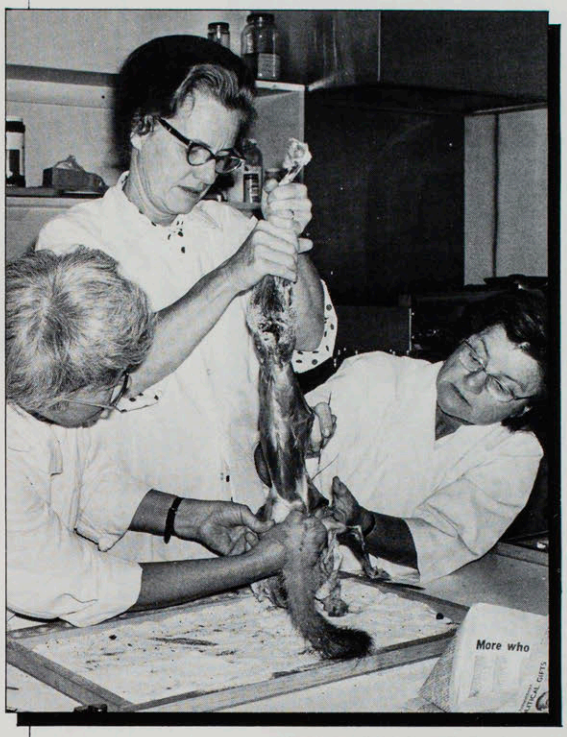
Two dozen enthusiastically reported deep personal satisfaction which included growth of self-confidence.

For fifteen women the program opened up a specific area of interest leading to dedicated and meaningful focus.

The development and mastery of public speaking skills were most meaningful and useful to fourteen of those queried.

But it is in the personal responses to this category and to Gretchen Sibley that the outpouring of a transcending experience became so movingly apparent:

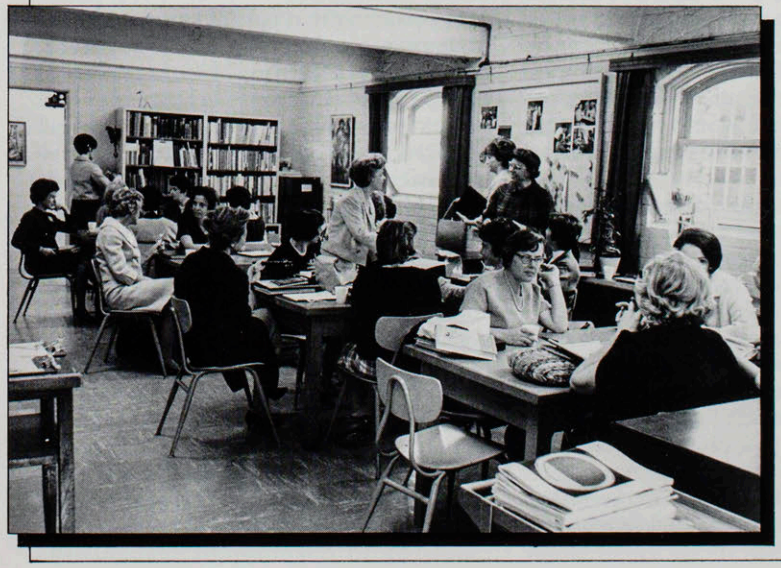
Gretchen Sibley, Director of Docent Program, 1962–1975.



Curatorial docents preparing study skins in the Mammalogy Section.

Judy Astone, Docent Coordinator 1975–1982.

Members of the first docent class, 1962, studying with Gretchen Sibley in Hancock Hall.



1965—Docents gather for the morning training session.

"It has made an enormous imprint on my life. It opened my eyes and mind to our world — past and present. It enabled me to meet and work with talented, interesting, and inspiring women."

"It has made the Golden Years of my life truly golden."

"My years with the Docent Program are some of the most challenging, growth-provoking, and satisfying years I've ever experienced."

"I was often described as a 'born teacher,' and I always said 'no.' But I learned to teach at the Museum."

"It got me out of the house following my husband's death....to develop new interests and latent talents."

"It was the happiest time of my life! I loved the training, the people, the kids, the museum halls (where I constantly got lost). Seriously, I learned discipline, how to study, do research, write papers and talk to groups."

"I use many of the docent subjects in my special work with L.A. City School Children. One of my autistic students loves prehistoric animals and my La Brea background really paid off. He improved the most in all his years in my special day class."

"I never had an opportunity to take even a natural history course. And then to be exposed to this banquet. What a high!"

"The program kept me from suffering the 'empty nest' syndrome ... gave me courage to try new directions in my life."

"I was a very shy person. It was a thrill to learn to reach out and I'll never forget the joy of speaking to an audience and to find I had their complete attention."

"It was the single best thing I have ever done in my life."

The returned questionnaires abound with such testimonials. But it is the statement of one docent which can be truly echoed by all of us who trained in this unique and meaningful program.

"Gretchen, you have been both a mentor and a model for me as I continue to grow as an autonomous person. I love you and thank you."

The Docent Training Program at the Natural History Museum has continued to be alive and thriving, until recently under the able leadership of Judy Astone, who herself trained under Gretchen Sibley. Now Joan Grasty is temporarily in charge. The enthusiasm of docents trained since 1975 is proof of the continuing dynamism of this program and the transformation which occurs in the lives of its participants.

Elizabeth Wright, long a major contributor to radio and television, is a prolific freelance writer as well. She is an Editorial Associate of TERRA, and, naturally a former docent.

Death Valley National Monument California, 1979.

LANDSCAPE PHOTOGRAPHS AS ART

by ANDREW D. SHUMAKER

This article discusses the making and viewing of black-and-white landscape photographs, using as examples four images from the author's exhibition which showed at the Natural History Museum of Los Angeles County from May 1 through August 1, 1982. Little photographic knowledge is assumed on the reader's part, but the ideas increase in complexity as one reads along. Some of the more subtle, but important, qualities of the original prints are lost in the reproductions. Additionally, it will probably be necessary for the reader to spend more time than usual looking at each image to apprehend the expressive concepts under discussion. Finally, reproductions and fine photographs should be viewed under sufficient light, or shadow details will not be seen well.

Is what you see above the title to this article a magnificent set of sand dunes in Death Valley National Monument? Not really. It's a reproduction in ink of a photograph in silver based on the distribution of hazy sunlight on those objects, as selected by my eye, recorded by a particular camera and interpreted again in the darkroom. Differentiating between subject and image is important. One does not allow an image to do enough if he is satisfied with asking and answering only, "What is the subject?" This becomes clearer and more meaningful when we note that this image would not look the same if it had been made at another time of day or year.

Now look at the first image again, paying attention to what it makes you feel. Do you have a progression of feelings as you continue to concentrate on it? What are your eyes doing? There is little that could be called right or wrong in looking at photographs, but if you find that you look only briefly at a photograph that you like, then immediately lose further interest, you are perhaps a bit jaded from seeing television and motion pictures where the average allowed viewing time per image is very short. A sensitive viewer who enjoys the Death Valley image might, upon first seeing it, notice the clean sweep of the strong foreground line leading the eye up and to the right into the high-peaked choppy waves in the mid-ground dunes. An emotionally uplifting surge accompanying that participation with the image's most powerful lines might be followed by a settling reverberation as the eye shifts from one light area in the dunes to another, then to the large shadows, sensing their restful balance with each other and with the edges of the horizontally peaceful photograph. Next the viewer might pay attention to the subtly hazy light-gray distant mountains gently jutting into the near-white sky, the smooth and rippled variations in surface texture of the dunes, and finally the footprints on the gentle shadowed slopes, the subtle graduations in the sky, the grains of foreground sand and the slight waving of the line which drew the eye into the photograph at first. He would perhaps feel that the dune peaks will subside in time, releasing the balanced tension, and resulting in harmonious tranquility.

Conway Summit California, 1978.

Whether the actual subject peaks would subside in time or not is irrelevant. Remember, this is not sand, this is a photograph of sand.

The action of a print on the viewer can be divided usefully for learning purposes into three levels: *graphic, representational,* and *evocative* (italics indicate key photographic terms). The graphic design of an image is the two-dimensional arrangement of dark and light shapes. The representational aspects answer the question, "What is the subject?" The evocative characteristics of a print have to do with how it makes the viewer feel. It is obvious that these levels interact powerfully, but try discovering them separately on the images accompanying this article. You will probably find that crudely sketching the important dark and light areas with pencil and paper will help you to see the graphic design. Describe the shapes (as triangles, circles, etc.) and notice how these areas interact with each other through alignment, repetition, subordination, and adjacency; and how they interact with the edges of the image. In doing so you will discover some of the magic in graphic design.

In investigating the representational qualities, ask yourself detailed questions about the subject. For example, in the Conway Summit image, is the white background snow or sky? It's snow with no horizon line. Where is the sun? Directly to the left and up about 45° in the sky. (Look at the shadows.) Are the trees all of the same shape? No. Are they different species? Probably so. Why are the trees located more or less in a line? Can you see that the answers are not so important as the increased awareness that results from asking the questions?

To investigate the emotional potential of an image you like, try verbalizing your feelings as you look carefully at it, perhaps writing down single words or phrases that describe what you feel. You might find the earlier description of the Death Valley image useful as a guide. After you have enjoyed the separate graphic, representational and emotive levels of action of a print, try letting the three coalesce and interact, so that you view the print as a whole again.

The Death Valley image was exposed at about 7:20 a.m. April 9, a day with a lightly overcast sky and moderate low level haze. Time of day and time of year are a guide to the sun's position, and thus to the position of shadows. The haze and light clouds between the sun and the dunes reduce the *contrast* (brightness difference) between all sunlit and shadow areas. Additionally, haze between the dunes and the distant mountains lightens the mountain shadows, adding to the *illusion* of great distance in the flat print. The sharp-edged curved shadows cast on the dunes by the effectively tiny light sources (the sun!) strongly imply three-dimensionality.

Looking even more closely, we see that the image shadows occur in at least four size groups: the distant mountain shadows which are hundreds of meters long, the major dune shadows meters across, the dune ripple and footprint shadows centimeters across, and (if the reproduction allows) the tiny shadows beside each protruding sand grain, on the order of a millimeter or less in dimension. Since all of these shadows are influenced by the sun's position, imagine the dull gray, shadowless, flat, lifeless image which would have resulted at noon, when the sun causes shadows to be cast (invisibly) straight down, or on a heavily overcast day, when the effectively very large light source (the entire sky) casts no noticeable shadows. This kind of visualization of a scene under as-yet-unseen lighting allows the photographer of landscapes to predict under what light conditions a scene might be worth returning to.

The way light falls on a subject can be classified. If it falls primarily on the front of the subject (the side toward the camera) it is called *front lighting.* A subject lit primarily from the side, back or top is said to be *sidelit, backlit* or *toplit,* respectively. Intermediate lighting positions are very common; as we've already seen, the Conway Summit scene was lit about halfway between left side and top lighting. Try classifying the lighting in the other three accompanying images and compare your results: Death Valley, between right sidelighting and backlighting; Imperial Dunes, right sidelighting; Antelope Canyon, toplighting. The sun is the primary light source in all images except Antelope Canyon, where skylight

is the sole source.

The *shadows* of landscape subjects are usually lit by the light from the blue sky and any clouds, as well as reflected light from other subject parts. Try to analyze the primary shadow light sources in the four reproductions and compare your results: Death Valley, hazy sky; Conway summit, clear sky and the snow itself; Imperial Dunes, clear sky illuminating shadow dunes, essentially nothing illuminating the shadow side of the moon (it's in space!); Antelope Canyon, almost no shadow illumination in this cave-like stream bed.

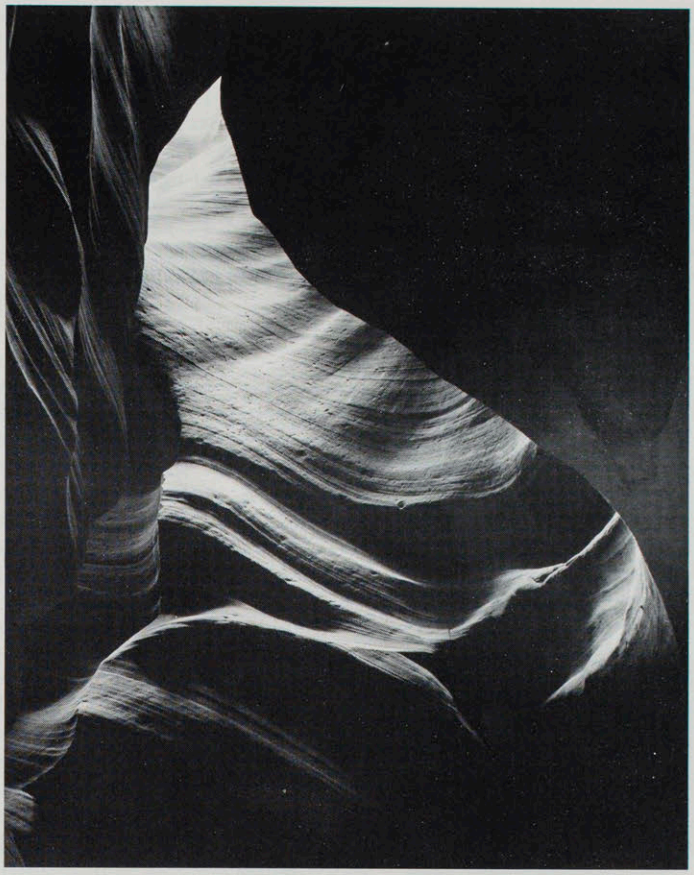
Another concept that makes viewing photographs more meaningful is that of *figure-ground*. This is perhaps most easily understood by looking again at the Conway Summit image and noticing the "figure" of the trees and bushes against the "ground" of the snow. The major figure-ground relationships are also clear in the other photographs accompanying this article, as well as in nearly all good landscape photographs (Don't take my word for it; look at them!). However, in the translation from colored subject parts to gray print values a troublesome phenomenon called *tonal merger* frequently occurs; figure and ground are rendered in the same shade of gray. As a result, the boundaries between the two image parts are indistinct or nonexistent. This often makes the image confusing and less than maximally expressive. Imagine how much less effective the Conway Summit image would be if the trees were scattered in an overlapping pattern amongst the foreground bushes. The delicately unlikely row of trees etched clearly against the shadowless white snow would be lost, and a jumbled series of tonal mergers would be substituted: a much less effective arrangement. Take the time to notice the clear figure-ground relationships in fine photographs.

The landscape photographer may stalk a promising subject under various light and weather conditions, using time of day and time of year to control the distribution of light in a deliberate manner, and clouds, rain, snow and fog as they occur to produce a distinctive image. Of the reproductions accompanying the article, only the Antelope Canyon image could have been made at a substantially different time of day with the same results. Optimal conditions for making a fine image often exist for only a few minutes at a particular place. The photographer can either move around and hope to arrive somewhere as the conditions peak, or stay in one promising spot and hope the conditions improve. Each strategy works well sometimes, but neither will work all the time. I personally like to stake out several promising locations in a locale, and monitor them through at least a day to see the various shadow patterns and distributions of light. Frequently I can determine a rough optimal time, camera placement, and other exposure variables one day, then be in place ready to make the dreamed-of exposure a little early the following day, leaving time for the unexpected — which so frequently seems to occur! Being there at the "right" time can take luck, but, as Ansel Adams has so aptly said, "Chance favors the prepared mind."

Imperial Sand Dunes California, 1977.

Much of being prepared as a landscape photographer involves knowing how to control the entire photographic process to make the image maximally expressive. Keep in mind that field decisions must often be made quickly because of changing cloud patterns, shadow positions, etc. The photographer must choose an effective *camera position* from which the arrangement of subject parts and the distribution of light are working together; usually a less than optimal image will result if the camera is misplaced by several feet, and at times if by mere inches. Then the worker must decide exactly where to place the *image borders*. This interacts with choosing a *horizontal* or *vertical image format*, itself an important decision with graphic and emotional ramifications. Horizontal format tends to complement a restful or peaceful mood, while vertical format generally complements a more dynamic, uplifting one. Camera position and image border location will determine the approximate *lens focal length* needed, since longer lenses project a narrower *angle of view* onto the film.

Serious landscape workers usually prefer *large format view cameras* because the 4x5 inch (or larger) *sheet film* allows *development* appropriate to each scene and provides fine detail with minimal *grain* in *enlargements* up to 20x24 inches and larger. In fact, the same degree of enlargement that produces a 5x7 inch print from a 35mm negative would produce a 20x24 inch print from a 4x5 inch negative. These cameras also allow independent *tilting* and *swinging movements* of the *lens* and *film planes*. The orientation of the camera back (and thus the film plane) relative to the subject controls the rendition of parallel lines and size relationships. For example, pointing the camera upwards to include the tops of tall nearby trees will result in convergence of the tree trunks toward the top of the image. Camera movements allow inclusion of the treetops while keeping the film plane parallel to the trees, thus preventing convergence of the trunks. Lens position determines what plane in the subject is rendered sharply on the film, and when used in conjunction with the camera back movements, allows optimal *distribution of sharpness* through the most important subject parts. For example, in making the Death Valley image, the camera back was kept vertical in order to preserve size relationships, while the lens was tipped slightly forward toward the subject. This allowed the plane of sharp focus to extend from the



Antelope Canyons Arizona, 1981.

near sand grains out in a slightly rising plane toward the distant mountains, including the mid-ground dunes. As a result, all important subject parts were easily kept sharp.

Additional control of sharpness is possible through use of the *iris diaphragm* in the lens. As this *aperture*, resembling the pupil of the eye, is closed, the distance behind and in front of the *principal plane of focus* which are sharp both increase. Thus depth-of-field is said to increase. All four photographs accompanying this article have depth-of-field extending adequately over all subject parts, hence everything seen is sharp. This is frequently the case in landscape work, and the smaller apertures required demand rather long *shutter* times to provide adequate exposure to the film. These, in turn, generally necessitate use of a tripod to prevent camera movement during exposure, and, when wind is present, selection of a quiet moment between gusts to prevent foliage from blurring.

Even more challenging for the photographer than these technical problems is the difficulty in "seeing" decisively. I personally try to visualize the final print in fairly great detail while still in the field. To reduce the emotional effect of colors and simulate the gray tone rendering of the print, I view the subject through a deep amber colored *monochromatic viewing filter.* To see the graphic design better I squint with one eye through the filter. This eliminates binocular depth perception and darkens the scene so that color vision is poorer. Finally I hold a small open rectangular frame in front of the filter and, employing some imagination, can "see" the final print reasonably well. If there are tonal mergers or subject tones with which I am dissatisfied I may put a colored *filter* on the camera lens. Filters change the gray tones in the print of variously colored subject parts by blocking certain colors and passing others. For example, in the Imperial Dunes image the blue sky was darkened by employing a filter that blocked blue light but passed the other colors. Clear skies are more intensely blue toward the zenith, hence the strong progression of gray values in the sky. This leaves the moon, which was exposed to be the brightest light gray which can hold detail, gleaming against a near-black sky and poised over the delicate wave-like dunes. At this point I usually make a black-and-white *Polaroid print* to examine a small, high quality version of the *straight* — unmanipulated — image. I may make further changes in camera position, image border location, or filtration (or even abandon the image altogether) based on the Polaroid print.

Once satisfied with the basic image, I read, with a *one-degree spot exposure meter,* the *key values* (the brightest and darkest subject parts where I wish to have adequate texture), as well as other important subject values. Then I plan the film exposure and development to render these values as I wish, based on a scale of 11 gray print values including maximum black and white). The shutter and aperture of each lens, and the film, must be calibrated for use with this variation of the *Zone system* — which I have simplified greatly here. The photographer must know the response of lens, film, and paper to light, as the painter must know the brush, paints and canvas. In planning the Imperial Dunes image, the dark part of the shadow dune and the moon were the key values. Producing the optimal negative required a reduced exposure and very long development to render the values as desired in the negative. I knew in the field that even with those controls employed, higher than normal contrast printing paper would be needed in the darkroom to produce the most expressive print, so I jotted down notes to that effect.

Development of the negative is straightforward if field decisions are sound, but fine-printing is the "other half" of creative photography. The photographer can control overall and local print brightness and contrast, as well as color, sharpness, and surface texture. Exploration and manipulation of these and other creative controls can take hours or days in the making of a single fine print. Prints also change as they dry, and considerable judgment is needed to compensate for these changes. The photographer may make a number of identical copies of a final print, but processing old-fashioned *fiber-based printing paper* for *archival permanence* requires specialized knowledge, and is tedious and time consuming. Hence the number of fine prints a photographer will be actually willing to make is limited severely.

The final image accompanying this article is of skylight pouring down across a convoluted slickrock canyon wall. The long (three-minute!) exposure combined with local manipulations applied to the print allowed details to show that were not visible to the unaided eye under the very low light levels at the scene. The image has little representational content, but suggests an uplifting spirituality in its abstract graphic design. Both literally and figuratively, this image reflects the painter Paul Klee's words: "The purpose of art is not to reproduce the visible, but to make visible."

Andrew D. Shumaker is Lecturer in Photography at the Johnston Center of the University of Redlands, Redlands, California. His images have appeared in publications, galleries, and museums in Southern California and are included in the permanent collection of the Polaroid Corporation, Cambridge, Massachusetts. Original photos from the Museum exhibition can be purchased in the Ethnic Arts shop. Posters are available in the Book Shop.

L·A·B·R·E·A DISCOVERIES DAY 1982

by WILLIAM A. AKERSTEN

More good ideas surface in bull-sessions around the coffee table (or, after work, around a pitcher of beer) than in the structured atmosphere of committee meetings. And so it was during an afternoon coffee-break at the George C. Page Museum last December. Science staff members chatted with volunteers. The talk drifted from topic to topic — about how the public visibility and weekend hours of the laboratory drew quite a few people with fossils, rocks, and all kinds of strange objects they wanted us to identify. Sometimes a call would come from the Information desk but very often there would be a tapping on the laboratory glass from someone holding a paper bag and frantically trying to signal that they had something for us to see. Nevertheless, very few visitors seemed to realize that identifying specimens for the public was part of our job.

Then the conversation turned to the advantages the "Downtown Museum" had over the Page Museum in that they could offer travelling shows and special exhibits to provide fresh attractions for the public, incidentally garnering attention from the media. Even though visitors rave about the Page Museum the exhibits — exciting as they are — do not change. At this point, Shelley Cox, who supervises the laboratory volunteers, brought up an idea which she had been mentally kicking around for several months. "Why not have a special day when the public, especially children, could bring in fossils and other things to be identified? It would please a lot of people, make the public more aware of the services we provide and might get us some fresh publicity." My initial reaction was rather skeptical because we were already overloaded with curatorial tasks and research projects. Adding another activity, no matter how beneficial to everyone, seemed inadvisable. However, by the end of coffee break, the opportunities appeared to outweigh the extra effort and we decided to check with others who would be involved. Enthusiastic responses from Greg Byrd, John Harris, Barbara Parkhurst, Judy Astone and several Earth Sciences curators encouraged us to go ahead.

First of all, the day needed a name. I am very impressed with the Discovery Room in the Florida State Museum where the public could bring in things they had found and identify them by comparison with specially provided specimens and reference books. Adapting their name resulted in "Discovery Day," later changed to "La Brea Discoveries Day" to better link it with our museum. "D-Day" was set as Wednesday, April 7, a regular museum working day so that Curators would be available and a school holiday so that children could easily come. Everybody pitched in with planning various aspects of the program. A final plan emerged centered about our classroom which is easily accessible through two entrances into the exhibit area. The previously bare classroom was made more interesting with pertinent posters, pictures and exhibits provided by the Invertebrate and Vertebrate Paleontology Sections. We limited identifications to three general categories: Fossil Bones, Fossil Shells, and Rocks and Minerals. A maximum of three identifications would be made per visitor. We invited all ages but tried especially to encourage children to bring in their unknown finds.

Ed Wilson of the Invertebrate Paleontology Section identifies a modern coral for a young discoverer.

And the people came! The efforts of Judy Astone, Elone Miller and Dawn Hattenback in getting out THE WORD really worked. Some of the best pitches were made by our old friend, Dr. George Fishbeck, on his Channel 7 weather slots. Calls started to trickle in days before the event. I received one from a woman in San Diego with fossil shells from an Iranian oil well she had been given years ago. Due to other commitments, she wouldn't be able to drive up on April 7 and would it be possible to get her specimens identified at another time. I assured her that there would be no problem but perhaps she could get in touch with paleontologists at the San Diego Natural History Museum. Several people showed up with specimens a day early and we are still getting calls almost two months later. About an hour before the museum opened on D-Day, the line began to form with boxes and lumpy bags much in evidence.

As visitors entered, they were directed to a check-in table outside the west classroom entrance where Barbara Parkhurst, volunteer Tour Guides and members of the Southern California Paleontological Society sent them to the proper area for identification. Tony Kampf and one of his volunteers, Wesley Greenmayer, manned the rocks and minerals table with periods of help from George Jefferson. Fossil shells were covered by Ed Wilson, Phil Owen and Roy Salls, one of Barbara's tour guides especially knowledgeable about fossil *Pecten*. Even I was able to help a little when a fossil Cretaceous oyster was brought in from my old stomping grounds in Texas. Naturally, fossil bones had a plethora of identifiers: myself, George Jefferson, Dave Whistler, Camm Swift, Chris Shaw, Shelley Cox, Richard Reynolds, and Toni Tejada-Flores. We had not intended to cover artifacts but so many were brought in that an *ad hoc* group of Roy Salls, Richard Reynolds, and the versatile George Jefferson identified what they could. Each visitor received signed certificates of identification and more of Barbara Parkhurst's Tour Guides hovered behind the tables keeping count of identified specimens for future reference.

The shop set up a table of reference materials and other items which sold fairly briskly while Fran Kellough and several Alliance volunteers signed up new Alliance members from a table outside the exit from the classroom. Between making preliminary identifications, directing visitors, and keeping count of iden-

tifications, Barbara's busy Tour Guides were running museum tours every half hour. Greg Byrd, John Harris, and I hovered.

All sorts of things were brought in: a modern carved obsidian chessman, a piece of iron embedded in a clump of pebbles cemented by rust — obviously from under the sea but was it somebody's discarded scrap or part of a Spanish galleon?, a waterworn "emerald" with the inscription 7-UP still faintly visible, many flint points from the eastern U.S. "brought to Los Angeles by grandpa when he moved here 50 years ago," a dried baby seaturtle with rhinestones for eyes, two mastodon teeth in a fitted case, and a bulldog skull among the more unusual items. Once, when I went out to see how the check-in table was doing, I spotted a husky fellow headed our way while pushing a wheel-barrow! It turned out to be a very nice fossil whale skull, later identified as a rare baleen whale. The wheelbarrow pusher, Mr. Dean Whitten, donated this important specimen to the Museum.

The morning was so busy that we began to worry about getting totally swamped but, contrary to our expectations, things slowed down a little during the afternoon. Even so, Ed Wilson and company barely had time to get a drink of water because of a flood of modern sea shells. Toni Kampf and his helpers also kept pretty busy with rocks. On the vertebrate side, every time that Camm Swift tried to get some lunch, another fossil fish was brought in.

Reporters and photographers turned up from the L.A. Times, Sunset Magazine, KMEX-TV and the Meredith Newspapers. Fred Anderson with a Channel 7 news team arrived during the afternoon. A few minutes later, Dr. George himself showed up with a bag of tricks for us. He had great fun with one that stumped all of us except for Toni Tejada-Flores. You may have recently read about Dr. Michael O. Woodburne of U.C. Riverside finding a primitive fossil marsupial in Antarctica. Somehow, Dr. George got ahold of an epoxy replica of a jaw from the same genus. Toni was taking Woodburne's course in vertebrate paleontology. She was the only one of us who had seen his new find and could identify Dr. George's ringer.

The statistics? 711 specimens were identified for about 400 visitors. Fossil Shells led the list with 291 identifications, Rocks and Minerals checked out 216 specimens, Fossil Bones had 121, and 83 artifacts could be identified. The two fossil categories included quite a number of modern shells and bones. Some specimens, especially Meso-American artifacts, simply could not be accurately identified by those present. Total museum attendance reached 2,769, much higher than usual. Eight new Alliance members signed up and we expect that more may come in as a result of the information packets handed out. We could have used a malacologist and an archeologist to better cover these areas. Publicity after the event included a major story on the front page of the L.A. Times View Section, coverage on KMEX and Channel 7 News, and the Meredith Chain ran front page photos in a number of their papers.

Whale skulls weren't the only large objects... some good-sized rocks were also lugged in. Wes Greenamyer and Toni Kampf, Mineralogy/Geology, on left.

"Sorry, your fossil bone is the lower jaw of a baby pig—probably the remains of someone's barbeque." Dave Whistler, Vertebrate Paleontology, tells a slightly disappointed collector.

What can't be counted, indexed and tabulated is the obvious delight of the participants at interacting with professional scientists in a relaxed atmosphere, the wide-eyed children intently listening as their precious discoveries were interpreted, and the profuse stream of thanks and compliments we received at every turn. The congenial cooperation of all the different people who made Discovery Day such a success also brought a special warmth to the event. Above all — IT WAS FUN!

Such a good thing cannot be left as a one time effort. La Brea Discoveries Day will happen again next March 30 with another tentatively planned near the end of the following summer. Plans are being made to schedule a similar event this fall at the "Downtown Museum" where a broader spectrum of specialists will be able to identify a greater variety of Discoveries.

Bill Akersten is curator of Rancho LaBrea at the George C. Page Museum. His special interests are fossil rodents and functional morphology.

(Continued from Page 2)

before the war's end, the 100th Infantry Battalion and the 442nd Regimental Combat Team successfully fought in seven major military campaigns. Altogether, there were more than 18,000 individual decorations for the 10,000 men of the two groups, thus making the 442nd as a whole the most decorated unit for its size and length of service in the history of the United States.

The unusual story of the Japanese Americans who served in the Military Intelligence Service (MIS) in the Pacific is little known to the general public even today. The Army had started a Japanese language school at the Presidio of San Francisco in November 1941. Soon after war broke out, the school was transferred to Camp Savage, Minnesota. By war's end, more than 6,000 people had passed through its language courses, ninety-five percent of the graduates were Japanese Americans.

The language school graduates served in every combat zone in the Pacific. They translated important documents, intercepted and broke military codes, and were pivotal in convincing many Japanese military and civilian personnel to surrender. The thousands of Japanese Americans who served in Asia did so almost in isolation. Sometimes they were assigned, as individuals, to small combat units as interpreters. Small numbers of them were also attached to larger units, where they worked in intelligence or as interpreters.

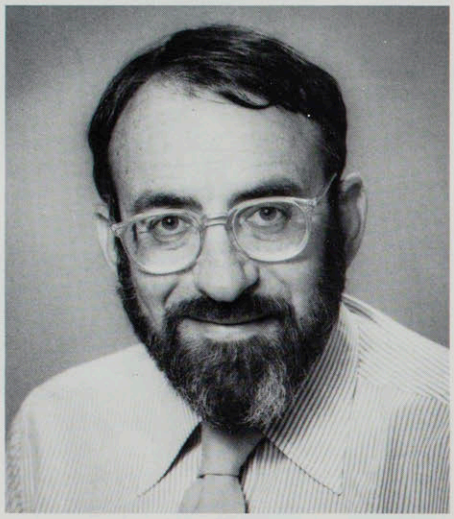
Because the Japanese Americans in the Pacific were so scattered, and because of the secret nature of their work, there was little publicity about their role in the war. Their knowledge of the complex and difficult Japanese language gave the Allies an extraordinary advantage in both offensive and defensive operations. The Japanese Americans in the Pacific were credited with saving countless Allied lives and with shortening the war considerably. Widespread recognition of the significance of their contribution is overdue.

For the fighting men in Europe, though, awards and honors were many. General Mark Clark, who headed the Italian campaigns, said: "Never did a Commander have more to be proud of than I, in having you associated with me in that difficult war." On 10 April 1946, Dwight D. Eisenhower, Army Chief of Staff, issued General Order No. 34, which said in part: "The gallantry and esprit de corps displayed by the officers and men of the 442nd Regimental Combat Team in bitter action against a formidable enemy exemplify the finest traditions of the armed forces of the United States."

This exhibit was conceived and organized by the United States Army and was first shown at the U.S. Army Museum, Presidio of San Francisco, 7 May 1981 to 30 May 1982.

Personnel Changes

Dr. Cohen, Curator of Life Sciences



The Museum warmly welcomes Dr. Daniel M. Cohen as our new Curator of Life Sciences. After receiving his undergraduate and Ph.D. degrees from Stanford University, he taught at the University of Florida. He arrived July 15 at his new Los Angeles post after a year in Seattle as a Senior Scientist in the National Marine Fisheries and several years as Director of the National Systematics Laboratory in the National Marine Fisheries Service at the Smithsonian. The Smithsonian Laboratory focuses on taxonomy and evolution of deep-sea fishes; field work has taken him on many expeditions to the Atlantic, Pacific and Indian Oceans, and to coral reefs around the world. Dr. Cohen's wife Anne, who holds degrees from Stanford and George Washington University in Washington, D.C., will soon leave her work at the Smithsonian to join Dr. Cohen in Los Angeles and continue her research in coral reef ecology at the Allan Hancock Foundation for Scientific Research at the University of Southern California. The Cohens have two daughters, one an engineer, and the other a recent college graduate.

Fran Kellough Retires

Frances S. Kellough, the Museum Alliance's Administrative secretary since 1966, officially retired on July 1. Alliance members will miss her sorely; in all the time she served the Museum she was absent from work only one day, and that because of illness. She eschewed vacations, even official holidays. She was the voice of our travel programs, the person who in the early days always waved off and met the planes for our European charters. She greeted members at open houses, receptions. She planned and produced field trips, lectures, summer classes.

A favorite project was Summer Sallies, and she saw many members' children through all six grade levels.

Her files are a history of Alliance activities since 1966, and as meticulous as

Fran Kellough with Larry Jeffries, left, former Alliance Chairman, Fred Truxall, Chief Curator of Life Sciences emeritus, *and Douglas Macdonald, right, also former Alliance Chairman, at farewell party.*

those records are, they are not as meticulous as the way she treated the needs and desires of Alliance members.

Fran Kellough served the Alliance Board of Directors in the same dynamic way she served Alliance members. At her official Museum farewell party, more than one former Alliance chairman was overheard saying,"While I was chairman, Fran really did the job." What they meant was that she really *knew* the job, that she lent continuity to each change that took place. When she was made an honorary Docent in 1970, the citation read "For Service above and beyond the call of duty." That citation might serve as a motto for the seventeen years of service Fran Kellough gave to the Museum.

JUDY ASTONE—NEW ALLIANCE ADMINISTRATOR

Judy Astone, since 1975 Docent Coordinator at the Natural History Museum, has taken over as the new Alliance Administrator since the retirement of Fran Kellough. Rather than having something written about her, in typical fashion Judy Astone has chosen to talk to Alliance members on her own. Her greeting follows:

Dear Alliance Member,

It is with great anticipation and enthusiasm that I undertake the job of Alliance Administrator. In one way or another I have been promoting the Natural History Museum since 1969 when I was accepted as a trainee in the Docent Program. In 1975 I became Coordinator of the Docent Program with the responsibility of teaching others about the intricacies of the Museum.

One of my favorite docent stories concerns a little boy who was on a tour of the African Mammal Gallery. After the docent told the class about the elephants and giraffes and how they share the same watering hole, the little boy stared at the big diorama for a long time. Finally he could stand it no longer and asked, "If I walked out there would I get lost?" It is that combination of realism and wonder plus the chance to find out about the world around us that makes our Natural History Museum such an exciting place.

I'm sure you share my feelings about the Museum. The immediate goals of the Alliance are to increase membership and to expand our programs. I welcome any suggestions or ideas you might have and invite you to stop by the newly renovated Alliance office located off the old rotunda.

Sincerely,

Judy Astone
Alliance Administrator

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Alliance Membership dues are tax deductible in accordance with the law.

I wish to apply for membership in the Museum Alliance. I understand my membership card* will admit my immediate family.

Student or Senior Citizen (62+)	$15.00 annually (With I.D.)
Active	$25.00 annually
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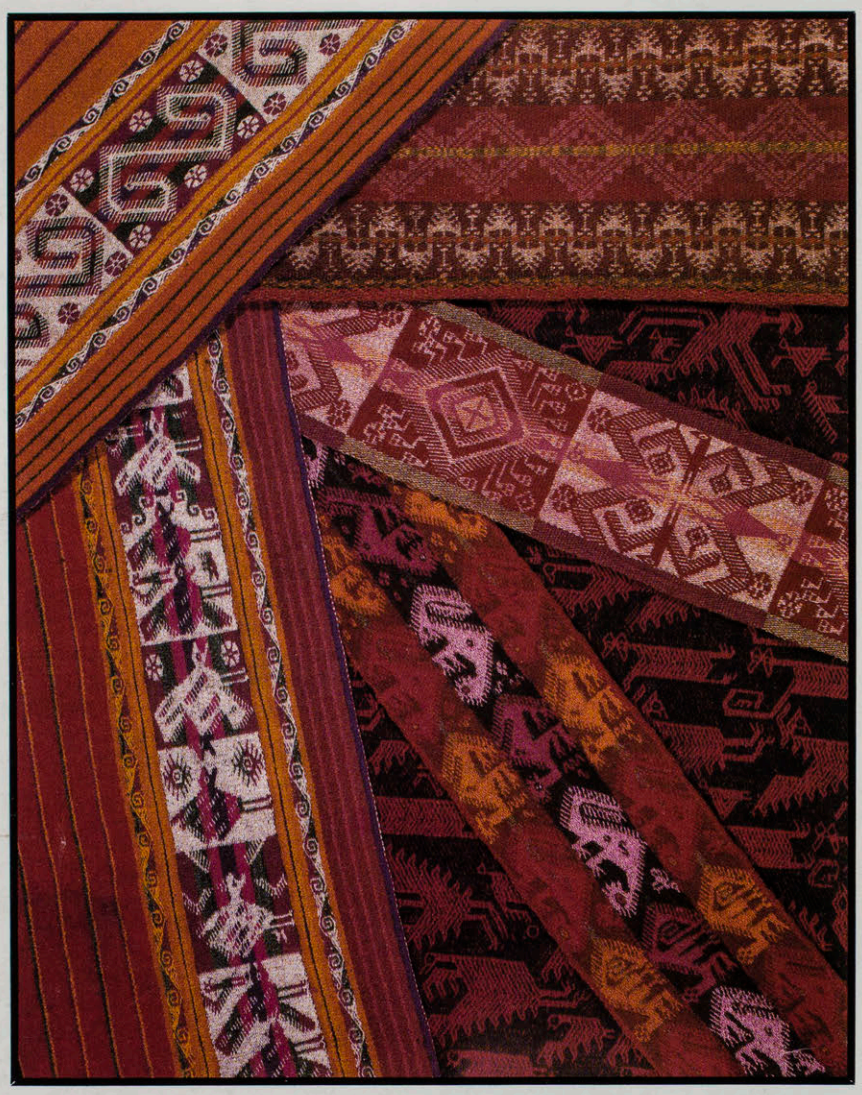
IN THE ETHNIC ARTS SHOP...
SPECIAL DISPLAY OF

BOLIVIAN HIGHLAND WEAVINGS



The weavings from the highlands of Bolivia are perhaps the most spectacular in the world. Often featuring real and imaginary creatures, these fabrics are intricate in detail, and exhibit a sophisticated and refined sense of color and design.

This weaving had its origins in Pre-Colombian times and arose in response to a need for clothing. Over the years, complicated techniques and designs evolved, villages developed their own styles, and cloth became a significant social element in the lives of the Andean people.

Come in and see this rare and exquisite display. You will view a rich and highly developed artistic tradition that now is preserved in only a few remaining areas. All weavings exhibited are for sale.

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